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COMPUTER AUTOMATED PAGE LAYOUT (PLA) FOR TEXT-GRAPHIC  
MATERIALS: USER'S GUIDE(U) TRAINING ANALYSIS AND  
EVALUATION GROUP (NAVY) ORLANDO FL W R TERRELL DEC 82

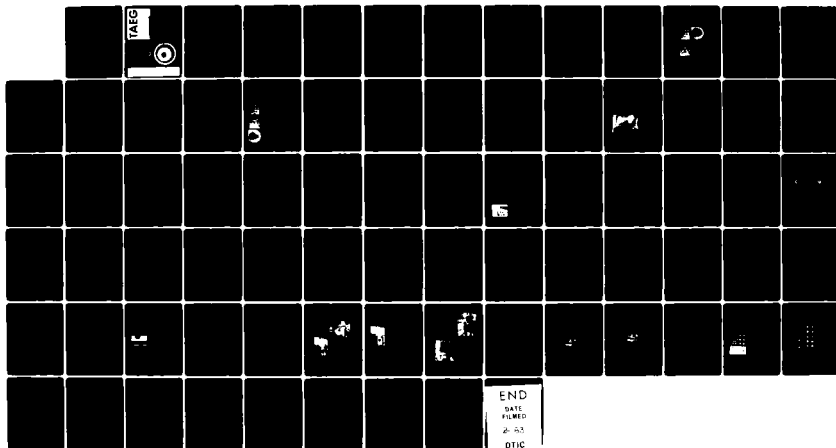
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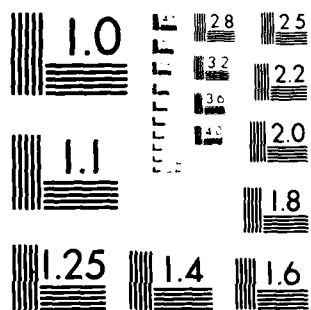
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TECHNICAL REPORT 137

**TAE**

TRAINING  
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AND  
EVALUATION  
GROUP

ADA 124146

**COMPUTER AUTOMATED  
PAGE LAYOUT (PLA) FOR  
TEXT-GRAPHIC MATERIALS:  
USER'S GUIDE**

DECEMBER 1982

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TRAINING ANALYSIS AND EVALUATION GROUP  
ORLANDO, FLORIDA 32813

Technical Report 137

COMPUTER AUTOMATED PAGE LAYOUT (PLA) FOR  
TEXT-GRAPHIC MATERIALS: USER'S GUIDE

William Terrell

Training Analysis and Evaluation Group

December 1982

Sponsored by

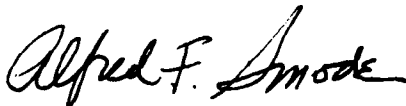
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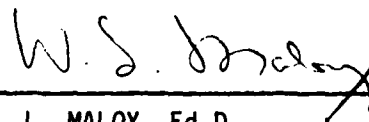
David W. Taylor Naval Ship Research and Development Center  
Naval Technical Information Presentation Program

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ALFRED F. SMODE, Ph.D., Director  
Training Analysis and Evaluation Group



W. L. MALOY, Ed.D.  
Deputy Chief of Naval Education and  
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20. ABSTRACT (Continue on reverse side if necessary and identify by block number)  This user's guide describes computer routines called PLA for automating the layout of highly illustrated pages describing equipment operation and maintenance procedures. This guide enables the relatively inexperienced author to prepare job performance aids and portions of procedure training aids. It describes how to (1) document procedures to be presented, (2) prepare data for use with PLA, and (3) run the PLA routines.		

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### ACKNOWLEDGMENT

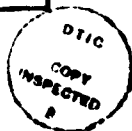
Many people have contributed to the development of the page layout (PLA) routines and to this guide for using these routines.

The initial version of a computer program to solve the text-graphic page layout problem was developed under TAEG sponsorship by Dr. A. J. G. Babu and Cheickna Sylla of the State University of New York at Buffalo. TAEG began a second generation of this program that included for the first time the automatic printing of the formatted pages. Alan George of the University of Central Florida prepared this program. Subsequent revisions were made by M. Stephen Solomon, also of the University of Central Florida. Dr. William Terrell of TAEG prepared this guide on how to use the page layout routines.

Several TAEG personnel provided support to this project. Dr. Richard Braby, team leader for the computer aided authoring projects in TAEG, conceived the project and supported it. Mr. Charles Guitard ensured that the computer routines met TAEG software standards. Dr. M. Michael Zajkowski made valuable suggestions on the technical content and style of the presentation.

Appreciation is extended to LCDR Richard E. Ewell, Helicopter Antisubmarine Squadron One, who used an early version of the user's guide and provided recommendations for making it a more useful aid to authors.

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### SECTION I

#### INTRODUCTION

The combination of increasing complexity of military equipment and a decreasing manpower pool with questionable quality of entering military personnel and rapid turnover presents a paradox: longer training pipelines and shortfalls in trainee capability. Admiral Isaac Kidd, USN Retired, Chairman of the Defense Science Board Summer Study on Training and Training Technology<sup>1</sup> stated, "It is clear that the training task is harder than it ever has been. It may well not need to get harder if we smarten up. Modern technology may offer some substantial increases in training efficiency that could save scarce time for training and dramatically improve force effectiveness."

One avenue towards increases in training efficiency is the use of computers to construct curriculum materials. Specifically indicated is the expanded use of text-graphic instructional materials to describe how to operate and maintain military equipment (see appendix A).

While text-graphics materials have proven successful both as learning aids and job performance aids, they are expensive to develop. The high cost has restricted the use of these materials to research projects and to a few well supported programs. The high cost of text-graphic materials is due in part to the labor intensive work of creating the graphic art and in composing complex pages of illustrations and text. To reduce the cost of producing text-graphic materials, computer routines are being developed to generate illustrations and to automate page composition. The present report is a contribution to this effort.

#### PURPOSE

This report is a user's guide for the computer automated Page Layout (PLA) of text-graphic materials. Specifically, this guide is designed to aid the user in:

- documenting the procedures to be trained
- preparing format data for use with PLA routines
- employing PLA to layout text-graphic pages.

#### TAEG INITIATIVES

PLA was developed to support the production of Procedure Training Aids (PTA). The PTA is one of five learning aid formats developed to teach five common types of learning tasks in Navy training.<sup>2</sup> Both PLA and the learning aid formats were developed under the sponsorship of the Naval Technical

<sup>1</sup>Defense Science Board, Summer Study, Training and Training Technology, August 1982.

<sup>2</sup>R. Braby, C. J. Brown, and A. F. Smode. Handbook of Format Models for Designers of Technical Training Materials. TAEG Report No. 129, 1982. Training Analysis and Evaluation Group, Orlando, FL 32813



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Information Presentation Program (NTIPP) at the David W. Taylor Naval Ship Research and Development Center. NTIPP is a major effort by the Navy to use current technology in the publication of training materials and technical manuals for operating and maintaining military equipment. The Chief of Naval Education and Training (CNET) tasked TAEG to support the NTIPP effort since the technical manuals and training materials will be employed in CNET-managed "C" schools.

### OVERVIEW OF THE USER'S GUIDE TO PLA

In addition to this introduction, this guide contains two sections and four appendices. Section II describes the processes involved in preparing data for use in PLA. These processes include how to: (1) describe the steps in the procedures to be taught, (2) organize the description of the procedure into information pages which meet the requirements of the procedure training aid format, and (3) prepare worksheets with picture dimensions and picture-text relationships which will be entered into the computer routine as format data. Section III is a job performance aid on how to actually enter the format data into the PLA routine.

Appendix A contains sample pages of the instructional material created using PLA. Appendix B is the format model for designing procedure training aids. Error messages for the PLA system are listed in appendix C. A grid master to produce an overlay to compute picture dimensions and coordinates is contained in appendix D.

## SECTION II

### PREPARING FORMAT DATA FOR USE IN PAGE LAYOUT (PLA)

This section provides directions on how to:

- document procedures to be taught
- organize the document information into Procedure Training Aid page formats
- prepare worksheets to enter Procedure Training Aid format data into the Page Layout routine.

These activities performed in sequence are described in detail below.

#### DOCUMENT THE PROCEDURE

The first task is to collect and organize descriptions of each step in the procedure to be taught. Many procedures will have an official checklist which, while it will not provide much information about how to perform the procedure, will provide a sequence of the steps. Other procedures will not have a checklist and, thus, will have no formal organization other than that given by subject matter experts (SME) in the actual performance of the procedure. If a checklist does not exist, one must be created for the procedure. Document the performance of the procedure to be taught in the following manner:

1. Use the procedure checklist to organize the sequence of steps in the PTA.
2. Observe a SME actually perform the procedure. Describe in writing as clearly as possible each step in the procedure as performed by the SME. Photograph the entire piece of equipment and each portion that is used in the procedure.
3. Assemble a number of SMEs to review the photographs and written description of the procedure. Revise the description until the SMEs arrive at a consensus that the procedure is described as it should be taught.
4. Group the steps of the procedure into clusters that logically fit together. Large clusters (more than seven steps) should be divided into two or more smaller clusters.
5. Describe in as clear and brief language as possible the following:
  - operator actions performed in each step of the procedure
  - equipment responses (if any) to the action performed at each step
  - operator reactions to equipment responses as they occur.
6. Select pictures which illustrate each action and visual response in the performance of the procedure.

## ORGANIZE THE DOCUMENTED INFORMATION INTO PTA PAGES

Utilization of the PTA format requires the preparation of four distinct types of pages: Information, Paraphrase, Road Map and Mock-up. All information taught in the PTA is introduced on Information Pages. Subsequently, Paraphrase Pages are used to provide self-checks on memory of that information. Road Map Pages provide prompted practice in the performance of the procedure through chaining drills called finger tracing exercises. Mock-up Pages provide unprompted practice in performance of the procedure requiring recall of the steps. The PLA routines are used in creating the Information Pages and the Paraphrase Pages which are variations of the Information Pages. The Road Map and Mock-up Pages are easily constructed by hand and are not supported by the PLA routines. See appendix B for a detailed description of these PTA format pages. The following steps describe the preparation of Information Pages. Each step is illustrated in figure 1.

1. Select the step(s) to be included on an Information Page. Limit the information on a page to as few steps as practical (rarely more than four).
2. Identify in the Header the cluster or checklist items and specific steps included on the Information Page.
3. Illustrate the steps with an overview picture of the equipment and close-up views of the portion of the equipment related to the steps described on that page.
4. Illustrate observable equipment responses to each action whenever the responses are essential cues for performing the procedure.
5. Describe the action for each step and enclose it in a box called an action label. Each label should be numbered in the sequence in which the action occurs in the procedure. An arrow should point to the location on the close-up illustration where the action takes place.
6. Describe responses that result from actions in separate response labels adjacent to the action label or include them in the action label.
7. Underline key words or numbers that must be remembered while performing the procedure.
8. Include directions to the learner in a Footer statement at the bottom of each page.

## WRITING STYLE

Writing style is critical to the success of a PTA. Authors should ensure that the writing is clear and understandable. For that reason they should use active voice rather than passive voice when preparing label text.

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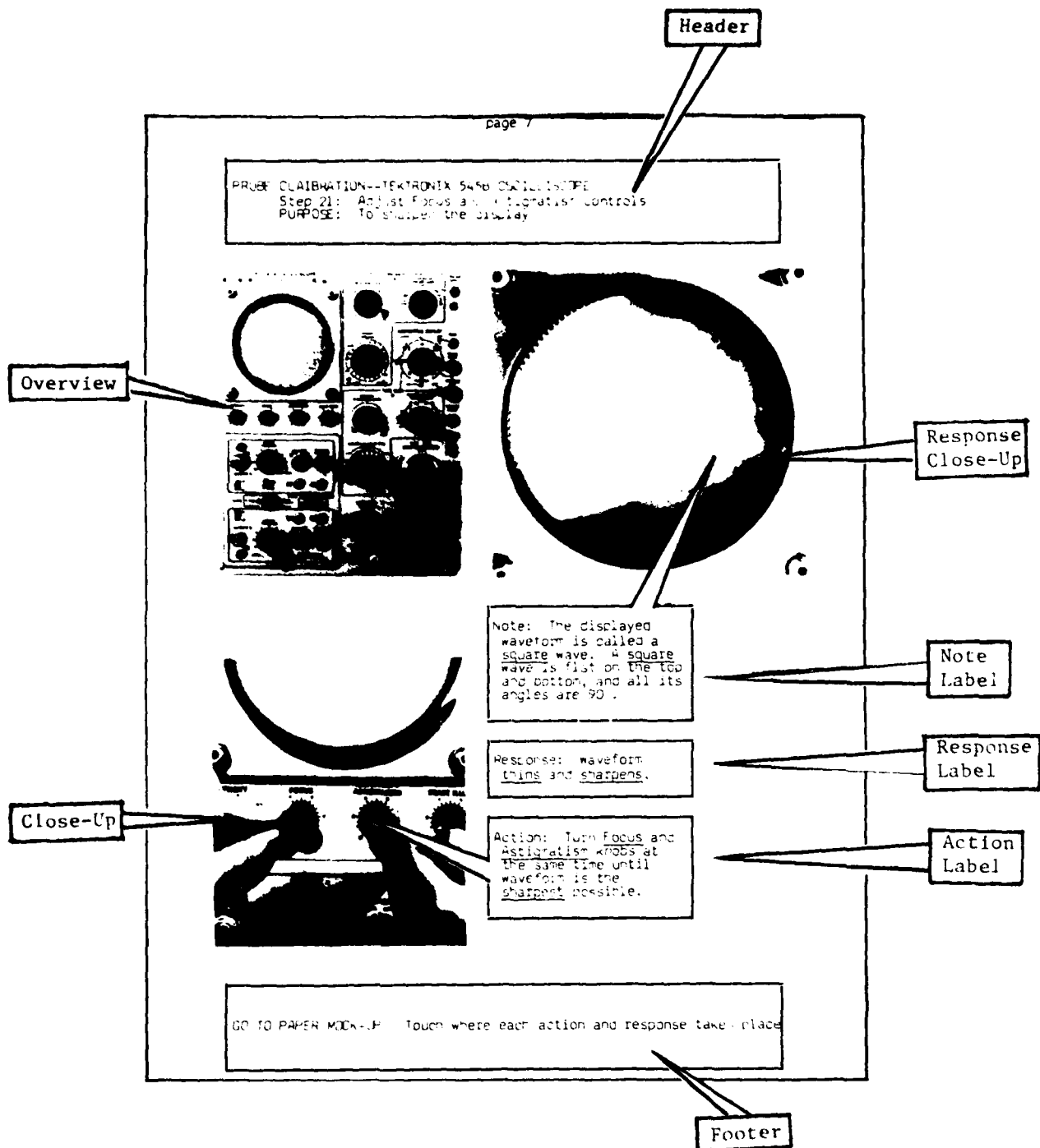


Figure 1 Information Page

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An illustration of the differences between the voice and passive voice is shown below. Active voice tends to be terse and encourages readers to perceive themselves performing the actions. Passive voice tends to be wordy and obscures the intended action.

### PASSIVE VOICE

The Vertical Gyro switch must be set to the port position. The Port position for the Vertical Gyro switch is in the UP direction.

The four Hardover switches should be checked to determine whether they are in the OFF position. Also, the covers for the Hardover switches must be returned to the down position after the check is completed.

### ACTIVE VOICE

Set Vertical Gyro Switch to Port (up).

Check 4 Hardover switches OFF (covers down).

Authors preparing data for entry as input for the PLA program will find it convenient to use worksheets. These worksheets are written records of the contents of a page as well as a set of notes to aid in the data entry process. Also, using worksheets will make it easier to edit and revise PLA Page Data and to create the paste-up of camera-ready pages.

### JOB PERFORMANCE AID FOR PREPARING WORKSHEETS

This subsection provides guidance in preparing worksheets which will be used to enter data into the PLA program. This material should be used in the following manner: (1) check the header to identify the specific procedure addressed on the page, (2) read label number one and any adjacent notes, (3) identify where the action occurs in the illustration, and (4) perform the action required, if any, and go on to the next numbered label. The procedures for preparing worksheets include the following:

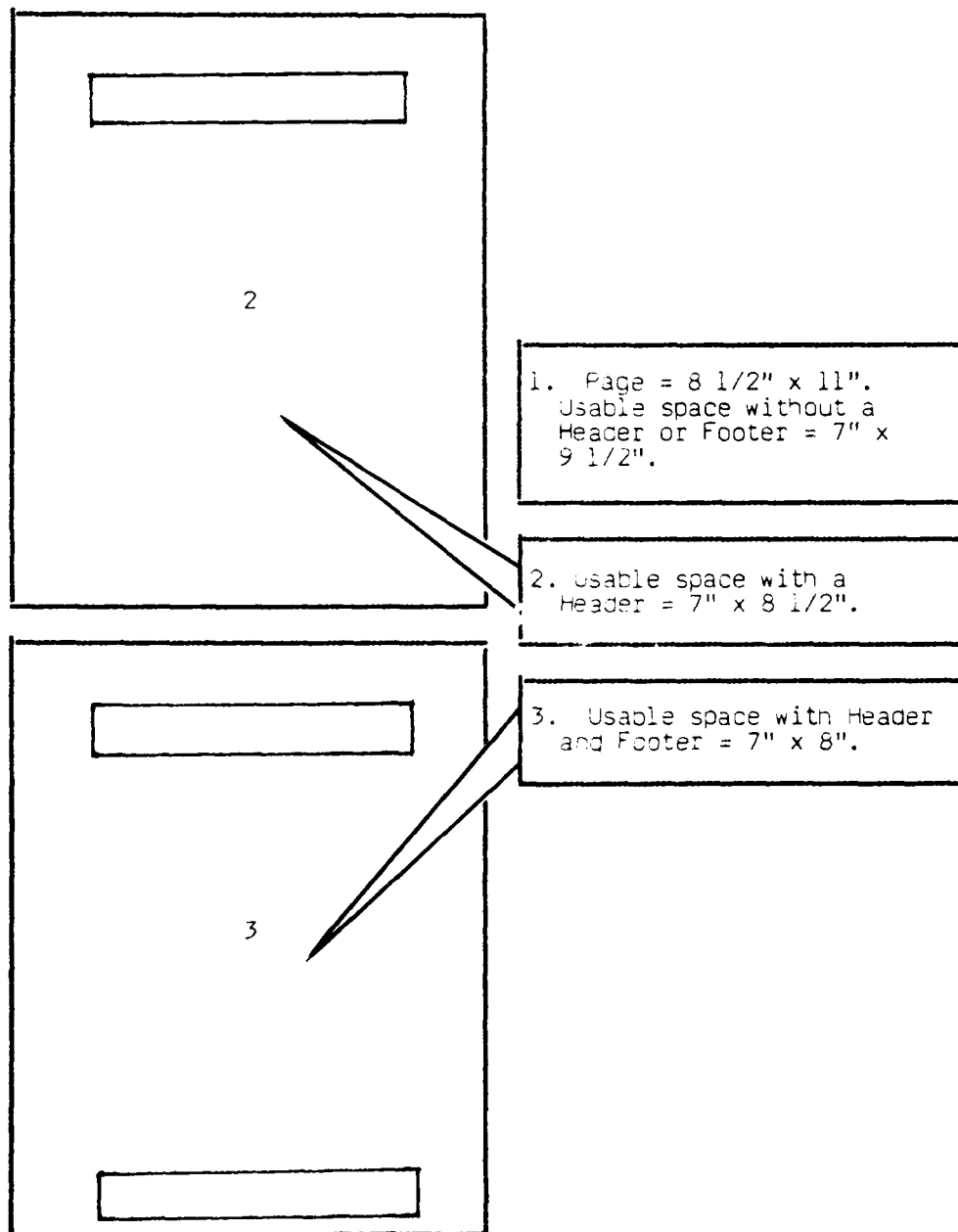
- dimensions of usable space on a page
- contents of Header and Footer
- selecting and numbering pictures
- label text and number sequence
- picture and label relationships.

These procedures are included in the following seven pages. Completion of this process for all steps to be included in the PTA will result in a complete set of worksheets for generating the Information Pages. Section III provides directions for entering the information and notes from the worksheets into the PLA program.

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PLA: DATA PREPARATION--WORKSHEETS

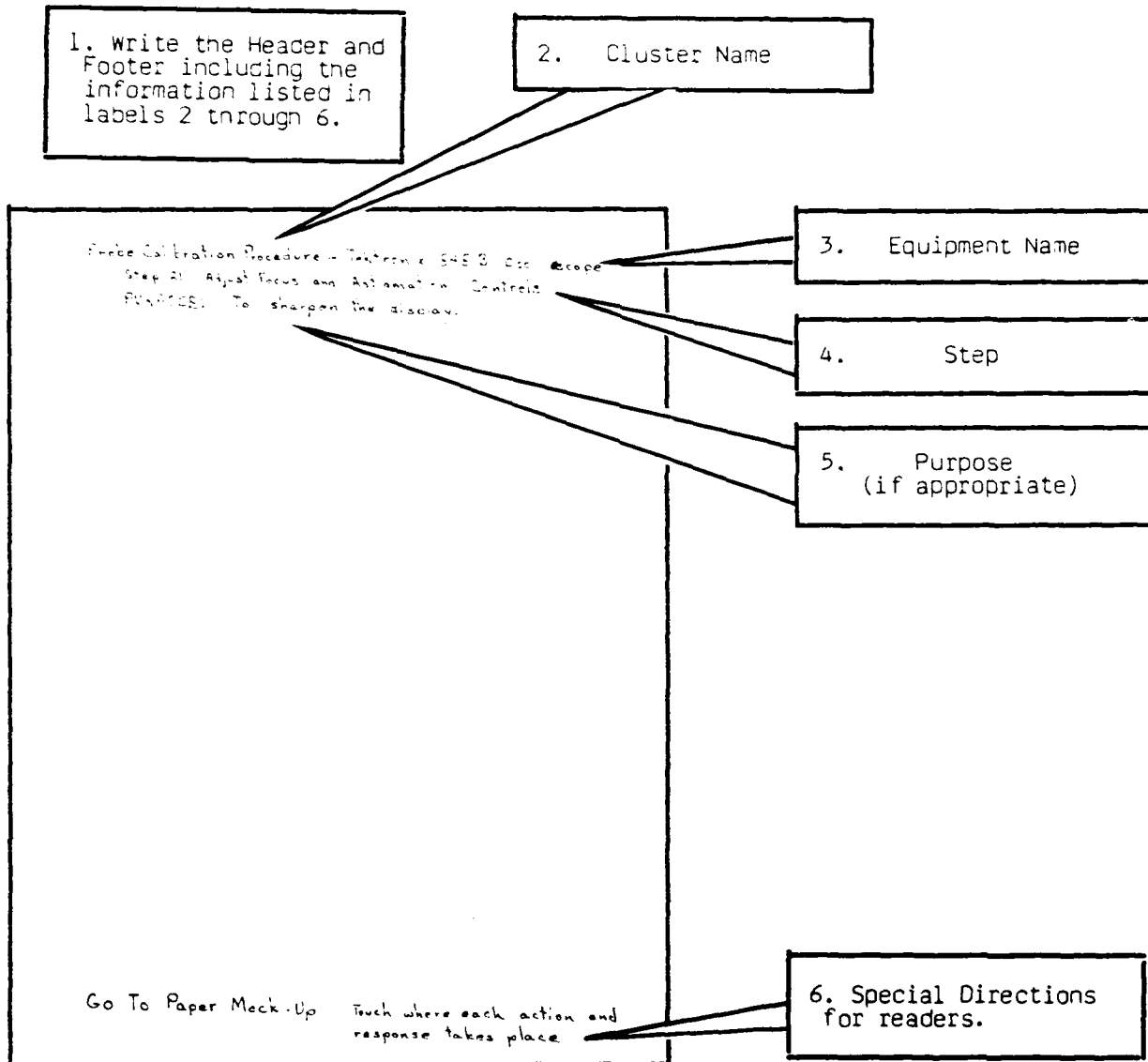
Page Dimensions



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PLA: DATA PREPARATION--WORKSHEETS

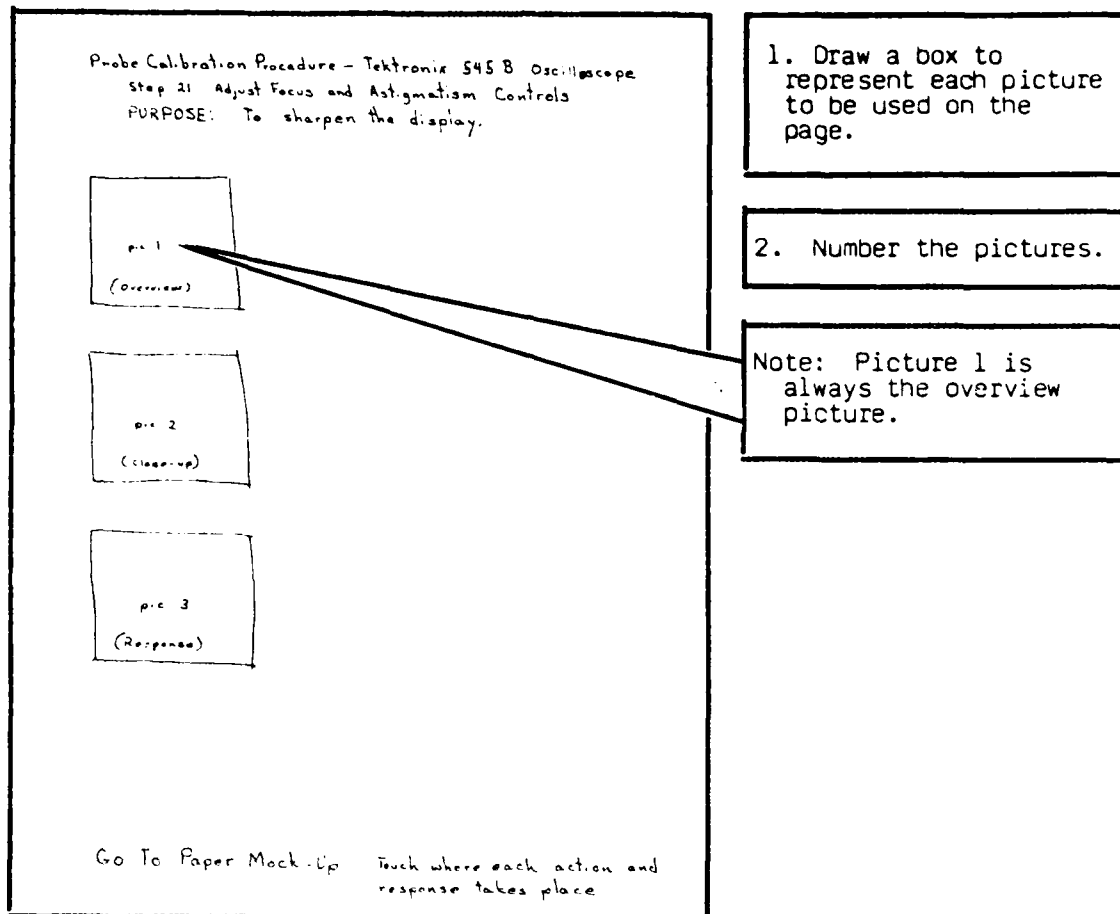
Header and Footer



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### PLA: DATA PREPARATION--WORKSHEETS

#### Pictures





## PLA: DATA PREPARATION--WORKSHEETS

[illegible]

2. Number the labels in the order you wish them to appear.

12

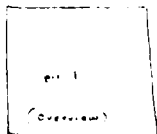
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### PLA: DATA PREPARATION--WORKSHEETS

#### Picture Dimensions

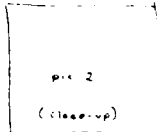
Probe Calibration Procedure - Tektronix 545 B Oscilloscope  
Step 2: Adjust Focus and Astigmatism Controls  
FIGURE 1 To sharpen the display

2.75 x 3.25



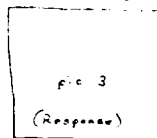
1. Action. Turn Focus and Astigmatism knobs at the same time until waveform is the sharpest possible.

2.75 x 3.25



2. Response. Waveform thins and sharpens

3.5 x 3.5



3. Note: The displayed waveform is called a square wave. A square wave is flat on the top and bottom and all its angles are 90°.

Go To Paper Mock-up Touch where each action and response takes place

1. Record the picture dimensions on top of the pictures.

Note: Picture dimensions are entered as decimals rather than fractions.

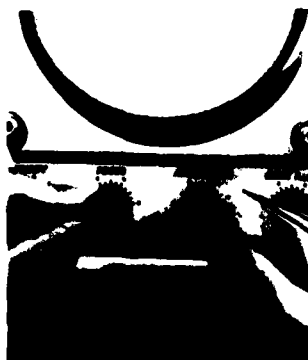
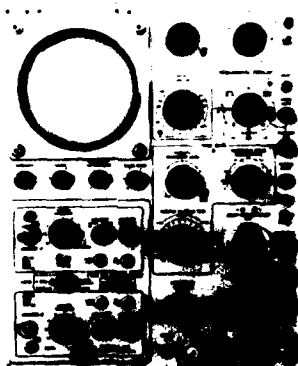
Note: The first number in picture dimension is width, the second number is height.

Note: A Picture Coordinates Grid is provided in Appendix D. The Grid is intended to aid the author calculate the dimensions and coordinates of pictures.

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PLA: DATA PREPARATION--WORKSHEETS

### Picture and Label Relationships

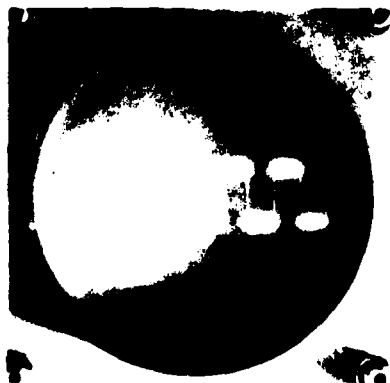


1. Determine the coordinates of the points in the pictures at which arrows from the close-up pictures and labels will terminate.

Example: The coordinates for picture 2 are 1" in from the left side and 0.75" down from the top of the overview picture.

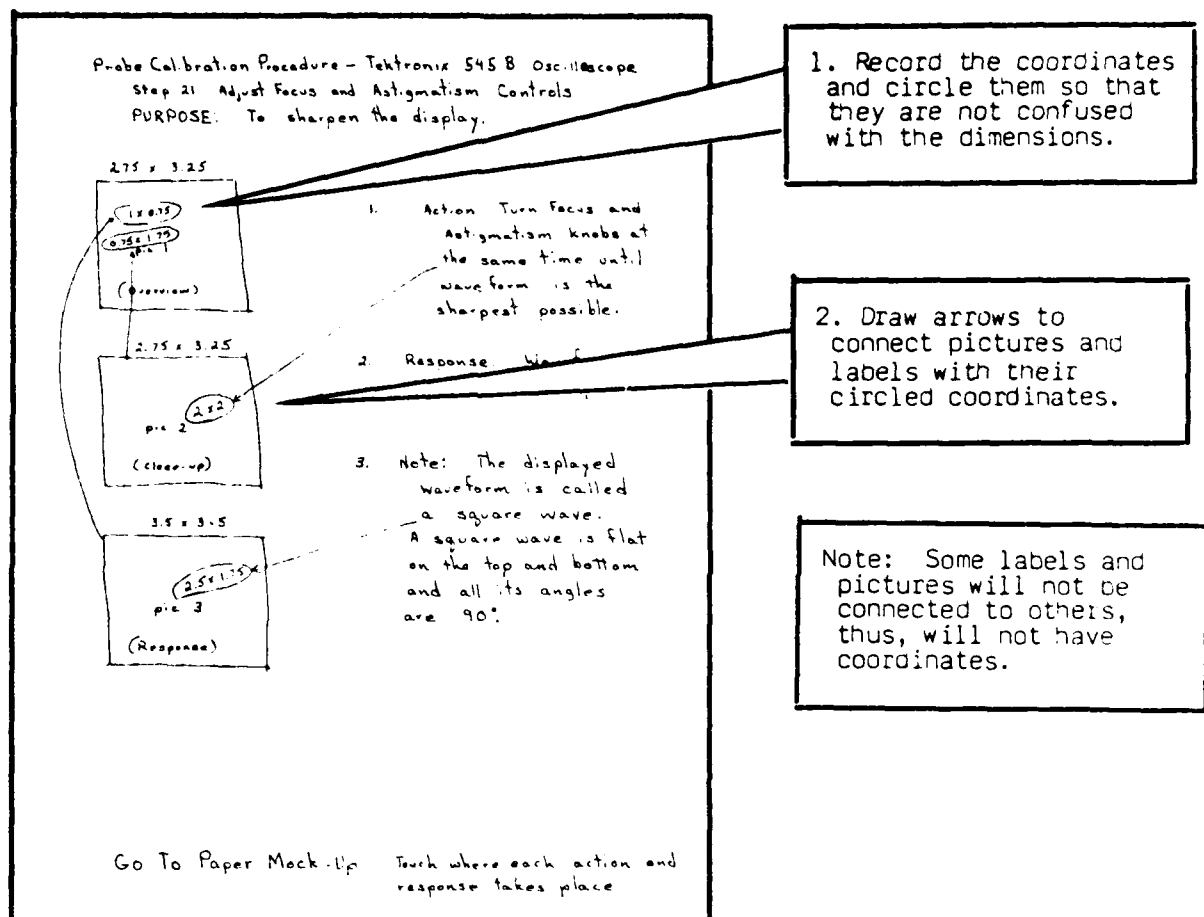
Note: Coordinates are always measured from the upper left corner of the picture.

Note: Labels can not be attached to Picture 1 except in a one picture layout.



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PLA: DATA PREPARATION--WORKSHEETS

Picture and Label Relationships



After all worksheets are completed, enter the data as input for the PLA program.

**SECTION III**

**A JOB PERFORMANCE AID FOR  
CONSTRUCTING PAGES WITH PAGE LAYOUT**

This section contains detailed instructions for creating Information Pages using the PLA program. The section is self-contained and may be used separately from the remainder of the report. There are two page numbering systems in section III. Numbers at the top of the page refer exclusively to the Job Performance Aid. Numbers at the bottom of the page relate to page position in the present report.

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This JPA contains detailed instructions for creating an Information Page using PLA. These instructions include how to: access the PLA program on the computer, create and edit PLA files, and generate, display, and print page layouts.

A description of equipment requirements and a brief overview of the program segments within PLA are presented first. The remainder of the section is a Job Performance Aid on how to use PLA. The reader should note that the PLA program was used to lay out the instructional pages of this section.

Learning the PLA procedure will be facilitated if each step is performed on a computer terminal. Also, performance of the procedures requires at least one completed worksheet for data entry. Read the equipment requirements and the program overview and then follow the directions for Accessing the Page Layout Algorithm File. The illustrations in this JPA are computer print-outs of PLA displays generated as the JPA was developed. The content of these displays may be confused with the labels, therefore, the illustrations are denoted by a gray tone. The JPA should be used in the following manner: (1) check the header to identify the program segment and specific procedure addressed on the page, (2) read label number one and adjacent notes, (3) identify where the action occurs in the illustrations, and (4) perform the action required, if any, and go on to the next numbered label.

### EQUIPMENT REQUIREMENTS

The PLA program was developed for use on a WANG 2200 VP or MVP system and is presently available only in WANG BASIC programming language.<sup>3</sup>

Equipment required to utilize PLA at the present time include:

Terminal - WANG 2116A CRT, or  
          WANG 2236D CRT -- Graphics Capability

Disk - WANG Hard Disk, or  
      - WANG 2270A Diskette Drive

Printer - WANG 2281 Daisy Wheel Printer

Authors using WANG 2270A diskette drives will need two of the drives to operate the PLA programs. The diskette containing the PLA programs must be inserted into the first diskette drive. The second diskette which is to contain the project files and work spaces will be inserted into the second diskette drive.

Federal agencies can obtain the PLA software by sending a written request along with one WANG 2270A flexible disk to the Training Analysis and Evaluation Group, Naval Training Center, Orlando, FL 32813.

<sup>3</sup>It is expected that some PLA users will convert the programs into languages compatible with other computer systems.

## **PLA OVERVIEW**

Figure 2 contains an outline of the six segments of the PLA operations. The outline includes a brief description of each segment intended to assist the reader in establishing the relationships of the various operations of PLA.

The remainder of this section is a job performance aid, designed to instruct the reader in the step-by-step use of PLA.

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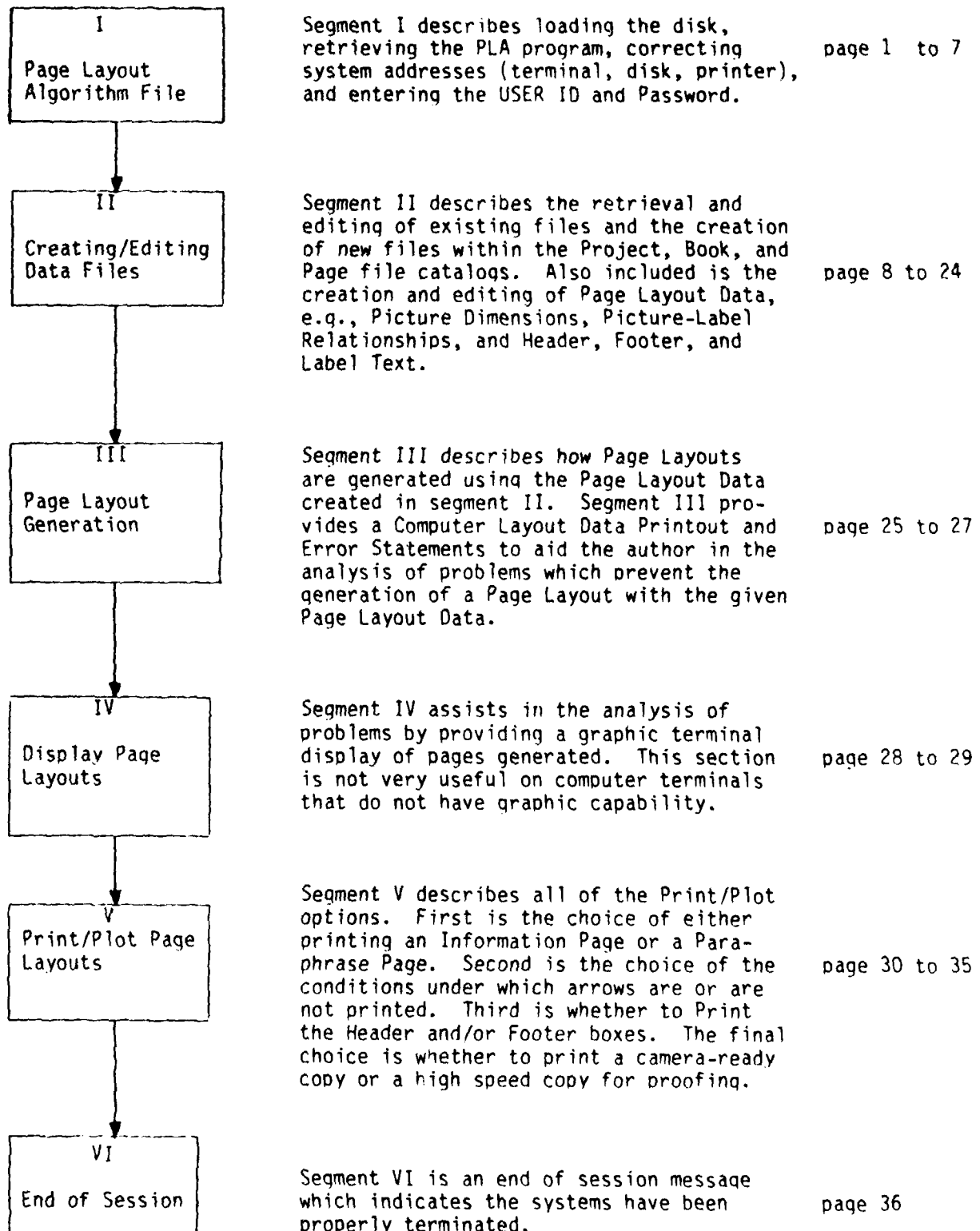


Figure 2. Outline of the PLA Operations

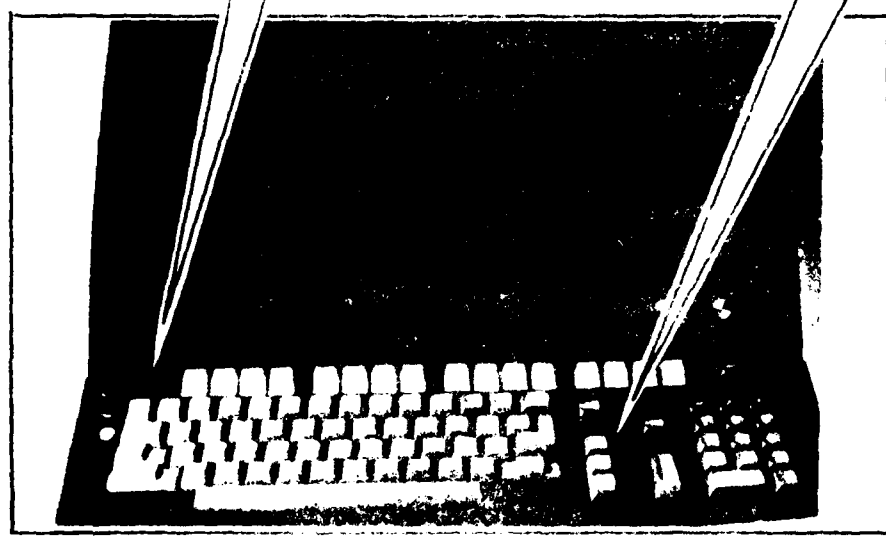


1. The following information is to be entered in the WAND file and the WAND file is to be maintained in the WAND file.

1. The following information is to be entered in the WAND file and the WAND file is to be maintained in the WAND file.

2. The following information is to be entered in the WAND file and the WAND file is to be maintained in the WAND file.

2. The following information is to be entered in the WAND file and the WAND file is to be maintained in the WAND file.



The following information is to be entered in the WAND file and the WAND file is to be maintained in the WAND file.

# SEGMENT 1: ACCESSING THE PAGE LAYOUT ALGORITHM FILE

## Disk Menu

1. If PLA programs are stored on a Diskette go to page 3.

If PLA programs are stored on a hard disk go on to the next step.

2. If the PLA file is not included in the Menu display key in: CLEAR  
(your disk number)  
Results: New Menu Display

\*\*\*\*\* 2200 VP/MVP DISK PGM SELECTION MENU \*\*\*\*\*

Select item with SPACE & BACKSPACE. Part on 3, 56 K  
Key RUN to execute, CLEAR or PREV SCRN for previous screen. Terminal 1

# PLA: Prototype PAGE LAYOUT ALGORITHM System

- . CTS: Computer Assisted Training Evaluation/Scheduling System
- . PSS: Personnel Directory System
- . NRO: Naval ROTC Tracking System
- . PRSN: Performance Evaluation & Wage Data System
- . RTC: Recruit Training Scheduling Model
- . HELQ: Helicopter Pilot Performance Data
- . SYSTEM Utilities Disk Menu (ISS Utilities)

3. Move the Cursor to your file by keying the Spacebar (down) or Backspace (up).  
Then key in: RUN  
(NO RETURN)

Results: The screen will read:  
LOADING PLA.ADRS

Then the screen will read:  
Welcome to page layout algorithm.

Go to page 3.

SEGMENT I: ACCESSING THE PAGE LAYOUT ALGORITHM FILE

System Addresses

1. Check the Data Files, System, Console, and Printer addresses located at the bottom of the display for accuracy.

2. If the addresses are not correct key in:  
(today's date)  
RETURN  
Results: The first address will appear for correction. Go to page 4.

Welcome to the Page Layout Algorithm

Please enter Today's Date (mmddyy): 051982

Data Files		!System!Console!Printer!		
Project	Book-Page			
D15	D15	/D15	/005	/211

Note: Your system manager will assign correct addresses.

3. If the addresses are correct, instead of the date key in: E  
RETURN  
Results: The system will request your USER ID.  
Go to page 5.

# SEGMENT I: ACCESSING THE PAGE LAYOUT ALGORITHM FILE

## System Addresses

1. After keying in today's date the system addresses will be displayed one at a time.

2. If the address displayed is correct key in: RETURN. Results: The next system address will be displayed.

Welcome to the Page Layout Algorithm

Please Enter Today's Date (mmddyy): 05/19/82

Please Enter Console Address: 005

Please Enter Printer Address: 211

Please Enter the Disk Address of the disk drive containing PLA System Programs: D15

Please Enter the Disk Address of the disk drive containing PLA Data Files: D15

:	Data Files	:	!System!Console!Printer!
:	/D15	:	/D15 /005 /211
:		:	

3. If the address displayed is not correct key in: (correct address) RETURN

Response: After the final address change PLA will request your USER ID and Password. Go on to the next page.



# SEGMENT 1: ACCESSING THE PAGE LAYOUT ALGORITHM FILE

## USER ID Reset

Welcome to the Page Layout Algorithm

Please Enter Today's Date (mmddyy): 05/19/82

Please Enter Your USER ID: ##### Please enter PASSWORD:  
 .. I'm sorry, it seems that your user id is being used by  
 .. another user or some other user accidentally left files  
 .. open. Please check with all other users of the system.  
 .. And if you still believe that an error exists, use a user  
 .. ID of 'SYSTEM' and execute the option that resets the  
 .. User Table.

Option:	Available Options
\$ :	Reset User Table
1 :	Input/Edit Layout Data
2 :	Generate Reports
3 :	Display Layout
4 :	Print/Plot Layout
.	End of Session

1. If the program will not accept your USER ID key in:  
 SYSTEM  
 RETURN

### Page Layout Algorithm: RESET USER TABLE

- This program will reset the user access table for ALL users of the system. Because of the completeness of this procedure, please inform any other users to end their session before you continue on with this program.

WARNING: There are other users. Enter USER ID to verify: #####

#### NOTE

Having to re-set the user access table should not become normal procedure. If you find that you are using this option often, it may be an indication of a more serious problem. Please review your operating procedure and be sure you always return to the MASTER MENU and execute the option 'End of Session'.

2. When the Master Menu appears key in: \$

3. Then key in: SYSTEM

Results: The Master Menu will appear and the system will be cleared of open files.

Go to next page.

SEGMENT I: ACCESSING THE PAGE LAYOUT ALGORITHM FILE

Master Menu

```

Option!      Available Options
$           : Reset User Table
            :
1           : Input/Edit Layout Data
2           : Generate Layouts
3           : Display Layouts
4           : Print/Plot Layouts
.           : End of Session

```

1. When the Master Menu appears key '1' to access the Input/Edit option.

2. When the Project File Listing appears go to page 8.

PLA: Input/Edit Data

Project File Listing

# HANDBOOK

•  
•  
•  
•  
•  
•  
•  
•  
•  
•  
•  
•  
•  
•  
•

```
Options  A [Add Project file]      spacebar [Selector down]
         D [Delete Project file]  Backspace [Selector up]
         RETURN [Edit Project file] SF' 15 [ For Master Menu ]
```

# SEGMENT II: CREATING/EDITING FILES

## Chapter 1 - Project File

Enter Project Name...HANDBOOK  
Enter Project Manager... TERRELL

1. Key in 'A' to create a new Project File. The Project File Listing will hold up to 51 Projects.

2. Key in the Name of the new Project File and Name of the Project Manager when requested to do so.

PLA: Input/Edit Data	Project File Listing
	# HANDBOOK
Options: A [Add Project file]    spacebar [Selector down] D [Delete Project file]    Backspace [Selector up] RETURN [Edit Project file]    SF'15 [ For Master Menu ]	

PLA: Input/Edit Data	Book Listing for HANDBOOK
	# ACCESS BOOK 1 BOOK 2
Options: RETURN [Edit Book file]    spacebar [Selector down] A [Add Book file]    Backspace [Selector up] O [Delete Book file]    SF'15 [To Re-select Project]	

Results: The Book listing will appear. Each Project may contain up to 51 Books  
Go to page 9.



SEGMENT II: CREATING/EDITING FILES

## Catalog - Book Listing

[illegible]

1. Key in 'A' to create  
a new Book.

ENTER BOOK NAME . . . #####

2. Key in the Name of the new Book.

```

PLA: Input/Edit Data      User Page Listing for ACCESS

# 001 . 019
. 002 . 020
. 003 . 021
. 004 . 040
. 005 . 022
. 006 . 024
. 007 . 025
. 008 . 026
. 009 . 027
. 010 . 028
. 011 . 029
. 012 . 030
. 013 . 031
. 014 . 032
. 015 . 033
. 016 . 034
. 017 . 035
. 018 .

RETURN [Edit Page file]    spacebar [Selector down]
Options  A [Add Page file]  Backspace [Selector up]
        O [Delete Page file] SF'15 [To Re-select Book]

```

Results: User Page  
Listing will appear on  
the screen. Each book  
may contain up to 100  
pages. Go to page 10.

Note: PLA files are arranged in the following hierarchy:  
Project File = up to 51 Projects  
each Project = up to 51 Books  
each Book = up to 100 pages.

PLA: Input/edit Page Data

Picture (DIM's)

Width Height

1 0 0

2 0 0

3 0 0

4 0 0

Spacebar (Selector down)  
Backspace (Selector up)  
SP+IS, To Re-select Back

1. key in 'A' to  
create a new  
page.

2. key in the  
number of the new  
page.

key in the type  
of units (inches  
or centimeters).

key in the number  
of pictures in  
the layout.

key in the type  
of units (inches, 'I' - centimeters)...I  
key in the number of pictures (1-5)...#

PLA: Input/edit Page Data 05/19/62 5:16

Picture (DIM's)

Picture	Width	Height	Picture Name	Relationships
			Picture Name	Coordinates
			From	To
1	0	0		
2	0	0		
3	0	0		
4	0	0		
5	0	0		
6	0	0		
7	0	0		
8	0	0		
9	0	0		
10	0	0		
11	0	0		
12	0	0		
13	0	0		
14	0	0		
15	0	0		
16	0	0		
17	0	0		
18	0	0		
19	0	0		

Relationships

Picture Name

Coordinates

X Y

1 0 0

2 0 0

3 0 0

4 0 0

5 0 0

6 0 0

7 0 0

8 0 0

9 0 0

10 0 0

11 0 0

12 0 0

13 0 0

14 0 0

15 0 0

16 0 0

17 0 0

18 0 0

19 0 0

Relationships

Picture Name

Coordinates

X Y

1 0 0

2 0 0

3 0 0

4 0 0

5 0 0

6 0 0

7 0 0

8 0 0

9 0 0

10 0 0

11 0 0

12 0 0

13 0 0

14 0 0

15 0 0

16 0 0

17 0 0

18 0 0

19 0 0

Results: The new  
Input/edit Page  
Data will appear  
on the screen.  
Go to page 11.

# SEGMENT II: CREATING/EDITING FILES

## Picture Dimensions

1. First, key in RETURN until the Cursor is on the desired line. You may return the Cursor to the previous data point by keying Special Function Key SF-15.

2. Next, key in the dimensions of each picture. You must use a 0 preceding the decimal point for any number less than one (e.g., 0.55). Go to page 12.

Page : 1	Unit:	PLA: Input/Edit Page 0	05/19/82 S: 1																																																																																																																														
Main Overview Pict		<table border="1"> <thead> <tr> <th colspan="2">PICTURE DIM's</th> <th colspan="4">PIC and LABEL RELATIONSHIPS</th> </tr> <tr> <th>Width</th> <th>Height</th> <th>Pic.</th> <th>Pic.</th> <th>Label</th> <th>Coordinates</th> </tr> <tr> <th></th> <th></th> <th>To</th> <th>From</th> <th>From</th> <th>X Y</th> </tr> </thead> <tbody> <tr><td>1</td><td>3</td><td>2</td><td></td><td></td><td></td></tr> <tr><td>2</td><td>3</td><td>2</td><td></td><td></td><td></td></tr> <tr><td>3</td><td>3</td><td>2</td><td></td><td></td><td></td></tr> <tr><td>4</td><td></td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>5</td><td></td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>6</td><td></td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>7</td><td></td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>8</td><td></td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>9</td><td></td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>10</td><td></td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>11</td><td></td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>12</td><td></td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>13</td><td></td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>14</td><td></td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>15</td><td></td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>16</td><td></td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>17</td><td></td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>18</td><td></td><td>0</td><td>0</td><td>0</td><td>0</td></tr> </tbody> </table>		PICTURE DIM's		PIC and LABEL RELATIONSHIPS				Width	Height	Pic.	Pic.	Label	Coordinates			To	From	From	X Y	1	3	2				2	3	2				3	3	2				4		0	0	0	0	5		0	0	0	0	6		0	0	0	0	7		0	0	0	0	8		0	0	0	0	9		0	0	0	0	10		0	0	0	0	11		0	0	0	0	12		0	0	0	0	13		0	0	0	0	14		0	0	0	0	15		0	0	0	0	16		0	0	0	0	17		0	0	0	0	18		0	0	0	0
PICTURE DIM's		PIC and LABEL RELATIONSHIPS																																																																																																																															
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17		0	0	0	0																																																																																																																												
18		0	0	0	0																																																																																																																												
Page Input/Edit Choices: [## Line #, 'Text', 'Print', 'Save', '.' Done] Enter Desired Option: 01																																																																																																																																	

Note: Picture 1 is always the overview picture.

## SEGMENT II: CREATING/EDITING FILES

## Input/Edit Page Data

Page : 1    Units : 1    PLA: Input/Edit Page Data    03/19/82 5: 16

Picture DB's

Main Overview Picture --)	Width	Height	PIC and LABEL		RELATIONSHIPS	
			Pic.	Label	Coordinates	
1	3	2				
2	3	2				
3	3	2				
			To	From	X	Y
			4	1	2	0
			5	1	3	0
			6	2	0	1
			7	3	0	2
			8	0	0	0
			9	0	0	0
			10	0	0	0
			11	0	0	0
			12	0	0	0
			13	0	0	0
			14	0	0	0
			15	0	0	0
			16	0	0	0
			17	0	0	0
			18	0	0	0

Page Input/Edit Choices:  
 {'##' Line #, 'Text', 'Print', 'Save', '.' Done]  
 Enter Desired Option: 01

1. Key in the Picture/Label Relationships and Coordinates. You must use a 0 preceding any number less than one (e.g. 0.55).

Note: The Coordinates are easily found using the X - Y Grid located in the back of this Handbook.

2. If you wish a hard copy of the Input/Edit Data Page key in:  
 'P' RETURN

page 1

PLA: ACCESSING THE PAGE LAYOUT ALGORITHM FILE

1. Key in: READY  
 Results: If the computer is ready for commands a ready message will appear on the screen.  
 Example:  
 READY (BASIC-2) PARTITION 04

2. Key in: LOAD  
 Results: Menu Display

Go to page 13.

# SEGMENT II: CREATING/EDITING FILES

## Header

Page : 1 Units : I PLA: Input/Edit Page Data 05/19/82 S: 1

PICTURE DDH's

Main Overview Picture -->	Width	Height
1	3	2
2	3	2
3	3	2

PIC and LABEL RELATIONSHIPS

Pic. To	Pic. From	Label	Coordinates
4	1	2	0 .5 .75
5	1	3	0 2.5 1
6	2	0	1 .75 .75
7	3	0	2 2.5 1
8	0	0	0 0 0
9	0	0	0 0 0
10	0	0	0 0 0
11	0	0	0 0 0
12	0	0	0 0 0
13	0	0	0 0 0
14	0	0	0 0 0
15	0	0	0 0 0
16	0	0	0 0 0
17	0	0	0 0 0
18	0	0	0 0 0

Page Input/Edit Choices:  
 {'#': Line #, 'T': Text, 'P': Print, 'S': Save, '.' : Done}  
 Enter Desired Option: 01

1. Key in 'T'  
 RETURN  
 Results: The  
 Text Menu will  
 appear on the  
 screen.

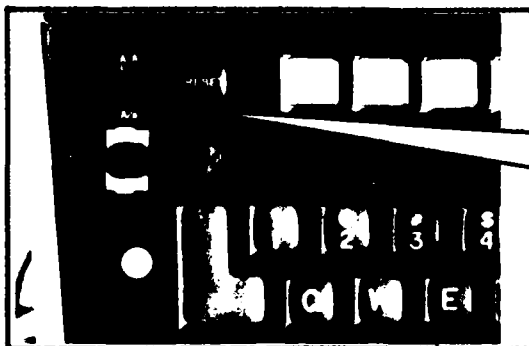
2. If you wish a  
 Header message  
 key in: 'H'.  
 If you do not  
 wish a Header go  
 to page 14.

Text Input/Edit Choices:  
 {'L': Label Input/Edit, 'D': Delete Label, 'H': Header, 'F': Footer, '.' : Text Done}  
 Enter the Desired Option: #

HEADER

PLA: ACCESSING THE PAGE LAYOUT ALGORITHM FILE

3. Key in up to  
 six lines of  
 Header text. Key  
 RETURN to move  
 Cursor next line.  
 When the message  
 is complete Key  
 RETURN until the  
 Text Menu appears.



Note: If you wish  
 to use the upper  
 and lower case  
 alphabet switch  
 the selector  
 located on the  
 upper left corner  
 of the key board.  
 Go to page 14.

SEGMENT II: CREATING/EDITING FILES

Footer

Text Input/Edit Choices:  
['L'abel Input/Edit, 'D'elete Label, 'H'eader, 'F'ooter, 'T'ext Done]  
Enter the Desired Option: #

1. If you wish a Footer message key in 'F'.  
If you do not wish a Footer go to page 15.

FOOTER

2. Key in up to six lines of Footer text. Key RETURN to move to the next line. The message will be printed exactly as you space it.

3. When the Footer message is complete key RETURN until the Text Menu reappears.  
Go to page 15.

## SEGMENT II: CREATING/EDITING FILES

### Label

Text Input/Edit Choices:  
['L' Label Input/Edit, 'D' Delete Label, 'M' Header, 'F' Footer, 'E' Text Done]  
Enter the

1. If you wish to enter a label key in 'L'. Then key the number of the label you wish to enter.

Enter the Desired Label To Input/Edit ( 1 - 4 ): #

2. Enter the labels in the order you wish them to appear. Example: label 1 will appear next to label 2.

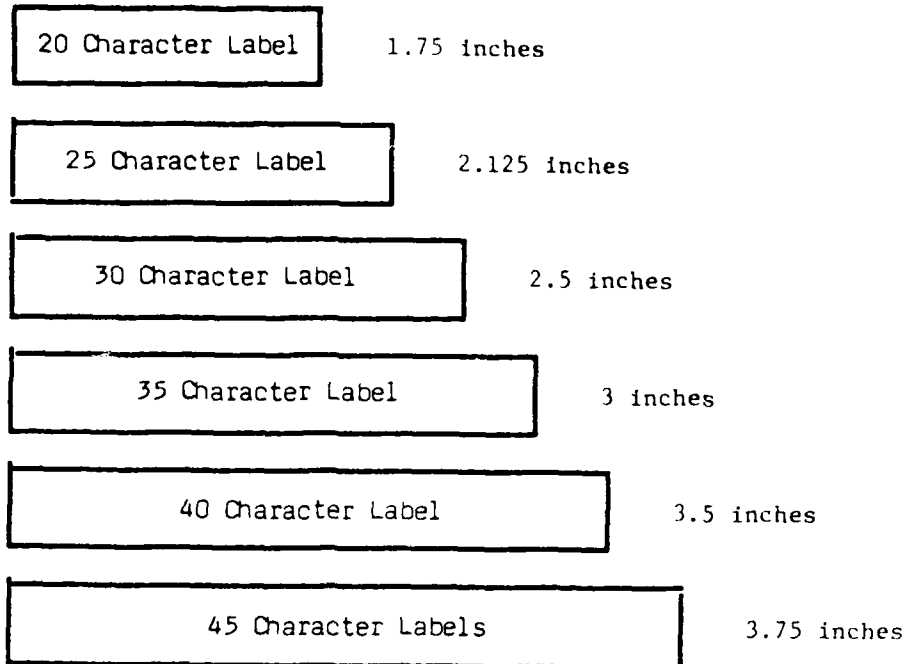
Enter the Label Character Width ( 1 - 75 ): ##

Note: If you wish to correct a label number, key in SF-15 to return to the previous data entry point.

3. Label Character width may be manipulated to provide short-wide or tall-narrow labels. Check label widths on page 16.

SEGMENT II: CREATING/EDITING FILES

Label Character Width



20 Character Label	1.75 inches
25 Character Label	2.125 inches
30 Character Label	2.5 inches
35 Character Label	3 inches
40 Character Label	3.5 inches
45 Character Labels	3.75 inches

Note: The computer will allow up to 75 characters.

Go to page 17.

Use this Label Character Width Scale to aid in the estimation of label sizes.



## SEGMENT II: CREATING/EDITING FILES

### Labels

Enter the Label Character Width ( 1 - 75 ): ##

Page Layout Algorithm: Text Input/Edit  
LABEL 1

[NOTE: Key '\$' at the End of a Line to End the Label]

1. Enter the Label Character Width. Label 1 will appear with a line of dashes corresponding to the Label Character Width.  
key: RETURN

Page Layout Algorithm: Text Input/Edit  
LABEL 1

1. Key in: RESET  
Results: If the computer is ready for commands a ready message will appear on the screen.  
Example:  
READY (BASIC-2) PARTITION 04  
:

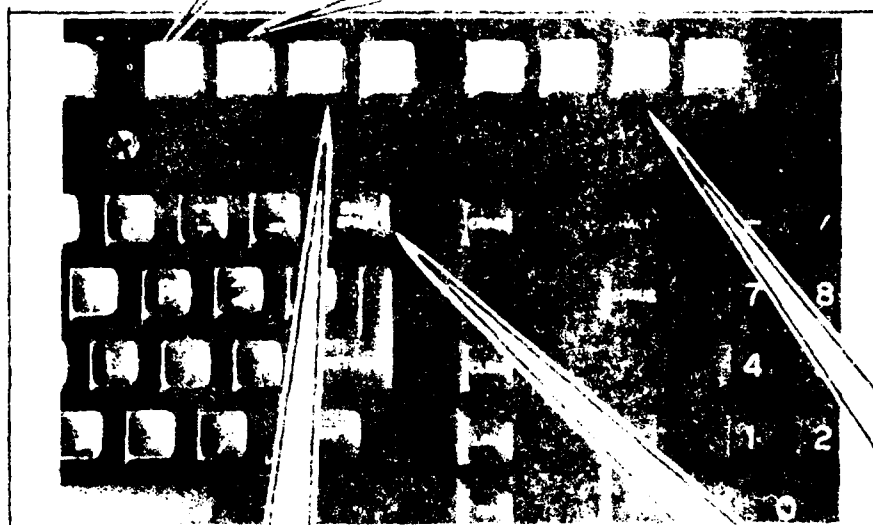
\$

2. Key in the information as you wish it to appear in the label. Label 1 in this example is "1.". It could be called Note or any other designation you choose.

Note: If you wish to correct errors go to page 18. If you wish to underline go to page 19.

3. At the end of the text key in: RETURN  
SPACEBAR (to end of line)  
\$  
RETURN

Note: After you have keyed in RETURN to end the label the Text Menu will appear on the screen.  
Go to page 20.



1. The film strip is  
 2. The film strip is  
 3. The film strip is  
 4. The film strip is  
 5. The film strip is  
 6. The film strip is  
 7. The film strip is  
 8. The film strip is  
 9. The film strip is

1. The film strip is  
 2. The film strip is  
 3. The film strip is  
 4. The film strip is  
 5. The film strip is  
 6. The film strip is  
 7. The film strip is  
 8. The film strip is  
 9. The film strip is

SEGMENT II: CREATING/EDITING FILES

Labels and Underlines

LABEL 1

Note: The Paraphrase Page is a duplicate of the Information Page with the key words blanked out. The purpose of the Paraphrase Page is to provide readers a self-check on how well they remember the material presented on the Information Page.

1. If you wish to underline a key word:

FIRST, key the underline,  
THEN, key the letter.

LABEL 1

Note: The \_\_\_\_\_ is a duplicate of the \_\_\_\_\_ with the key words \_\_\_\_\_. The purpose of the \_\_\_\_\_ is to provide readers a self-check on how well they remember the material presented on the \_\_\_\_\_.

2. When Paraphrase Pages are printed ALL underlined words are blanked out.  
Return to page 17.

# SEGMENT 11: CREATING/EDITING FILES

## Labels

1. After completing Label 1 you may key in 'L' to begin Label 2.

Page Layout Algorithm: To		Out/Edit	05/19/82 S: 1
LABEL			
2. Key in:	LOAD		
	RUN		
	RETURN		
Results:	Menu	lay	
Text/Inp/ut/Edit Choices:			
['L'abel Input/Edit, 'D'elate Label, 'H'eaders, 'F'ooter, '.' Text Done]			
Enter the Desired Option:			

2. If you wish to delete a label key in 'D' and the number of the label that you wish to be deleted.

3. key in a period '.' when text entry is completed and you wish to return to the Input/Edit Page Data Menu.  
Go to Page 21.

# SEGMENT II: CREATING/EDITING FILES

## Input/Edit Page Data

1. Option 'P' provides a hard copy of the Input/Edit Page Data, Header, and Footer.

Page : 1    Units :

Main Overview Picture

PLA: Input/Edit Page Data                      05/19/82 S: 1

PICTURE DIM's

	Width	Height						
1	3	2						
2	3	2						
3	3	2						

PIC and LABEL RELATIONSHIPS

Pic.	Pic.	Label	Coordinates
To	From	From	X    Y
4	1	2	0    .5    .75
5	1	3	0    2.5    1
6	2	0	1    .75    .75
7	3	0	2    2.5    1
8	0	0	0    0    0
9	0	0	0    0    0
10	0	0	0    0    0
11	0	0	0    0    0
12	0	0	0    0    0
13	0	0	0    0    0
14	0	0	0    0    0
15	0	0	0    0    0
16	0	0	0    0    0
17	0	0	0    0    0
18	0	0	0    0    0

Page Input/Edit Choices:  
 [## Line #, 'Text', 'Print', 'Save', '.' Done]  
 Enter Desired Option: 01

2. Option 'S' stores the Input/Edit Page Data and Text Data in the permanent Page Layout Algorithm File.

3. WARNING. Option '.' returns you to the Page Listing Menu, however, you will LOSE the data entries or changes you have made during this session.

4. For the purposes of this exercise key 'S' and go on to page 22.

# SECT. 11: CREATING/EDITING FILES

Input Edit Data -- User Page 11

1. Option RETURN will recall the Page listed adjacent to the Cursor. Key SPACEBAR or BACKSPACE to move the Cursor.

2. Option 'A' will initiate the process of creating a new Page File.

PL4: Input/Edit Data	User Page Listing for
	# 001 . 01
	. 002 . 02
	. 003 . 03
	. 004 . 04
	. 005 . 05
	. 006 . 06
	. 007 . 07
	. 008 . 08
	. 009 . 09
	. 010 . 010
	. 011 . 011
	. 012 . 012
	. 013 . 013
	. 014 . 014
	. 015 . 015
	. 016 . 016
	. 017 . 017
	. 018 . 018

Options: RETURN [Edit Page file]      spacebar [Selector down]  
 A [Add Page file]      Backspace [Selector up]  
 D [Delete Page file]      SF-15 [Go to select Book]

3. Option 'D' will delete the Page file adjacent to the Cursor

4. Option SF-15 will return you to the book listing for the Project in which you are working.

Note: before deleting the file the computer will ask ARE YOU SURE (Y/N)? Keying in 'Y' will delete the file. Keying in 'N' will retain the file.

5. For the purposes of this exercise key SF-15 and go to page 23.

SEGMENT II: CREATING/EDITING FILES

Input/Edit Data -- Book File

1. The menu options permit you to edit, add, or delete a Book.

PLA: Input/Edit Data      Book Listing for HANDBOOK

# ACCESS  
  . BOOK 1  
  . BOOK 2  
  .  
  .  
  .  
  .  
  .  
  .  
  .  
  .  
  .  
  .  
  .  
  .  
  .

Options    RETURN [Edit Book file]    spacebar [Selector down]  
          A [Add Book file]      Backspace [Selector up]  
          D [Delete Book file]    SF'15 [To Re-select Project]

2. Option SF 15 will return you to the Project File Listing.

3. For the purposes of this exercise key SF-15 and go to page 24.

## SEGMENT II: CREATING/EDITING FILES

Input/Edit Data -- Project file

1. The Menu options permit you to edit, add, or delete a Project.

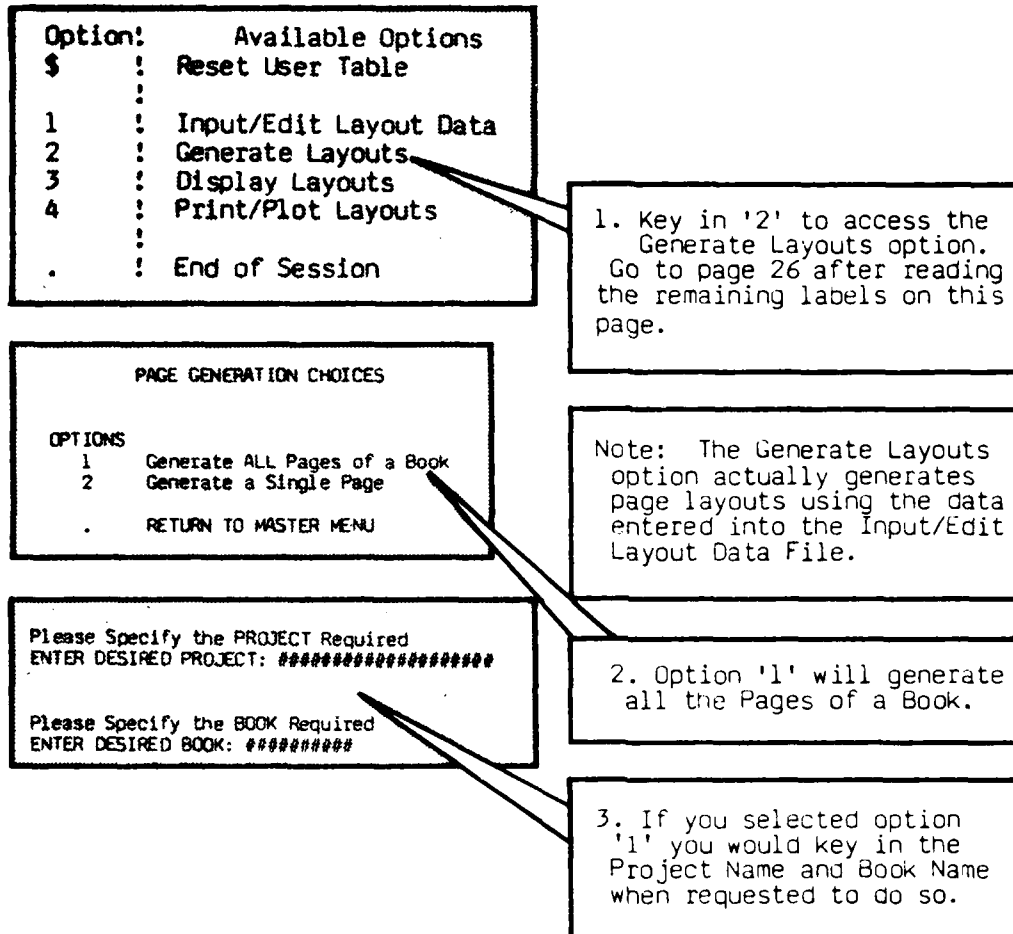
[illegible]

2. Option SF 15 will return you to the Master Menu.

3. For the purpose of this exercise key SF-15 and go to page 25.



SEGMENT III: PAGE LAYOUT GENERATION



SEGMENT III: PAGE LAYOUT GENERATION

PAGE GENERATION CHOICES

OPTIONS

1     Generate ALL Pages of a Book

2     Generate a Single Page

   .   RETURN TO MASTER MENU

1. For the purposes of this exercise  
key in '2' to generate a single  
page of a Book.

2. Key in the Project Name, Book Name  
and Page Number when requested to  
do so. Go on to page 27.

Please Specify the PROJECT Required  
ENTER DESIRED PROJECT: #####

Please Specify the BOOK Required  
ENTER DESIRED BOOK: #####

Please Specify the PAGE Required                      ENTER DESIRED PAGE: ###

### SEGMENT III: PAGE LAYOUT GENERATION

#### Error Messages

1. FATAL ERROR messages indicate why a Page may not be generated. A complete list of error messages is provided in Appendix C.

FATAL ERROR: More Than 1 Picture to a Label For Page 1, ABORTED!

\*\* processing page 1 \*\*

.[ANY KEY TO CONTINUE]

2. When an Error Message occurs, key in SF 15 to return to the Master Menu. You may then proceed to Input/Edit Page Data to correct the error.

3. If a Fatal Error does not occur the program will generate all the pages. When the last page is generated the Page Generation Menu will return to the screen. Key a period '.' to return to the Master Menu. Go to page 28.

SEGMENT IV: DISPLAY PAGE LAYOUTS

Option!	Available Options
\$	Reset User Table
1	Input/Edit Layout Data
2	Generate Layouts
3	Display Layouts
4	Print/Plot Layouts
.	End Session

Graphics Terminal

DISPLAY CHOICES	
OPTIONS	
1	Display A Book
2	Display A Page
.	RETURN TO MASTER MENU

1. Key in '3' to list the Display Layout Menu.

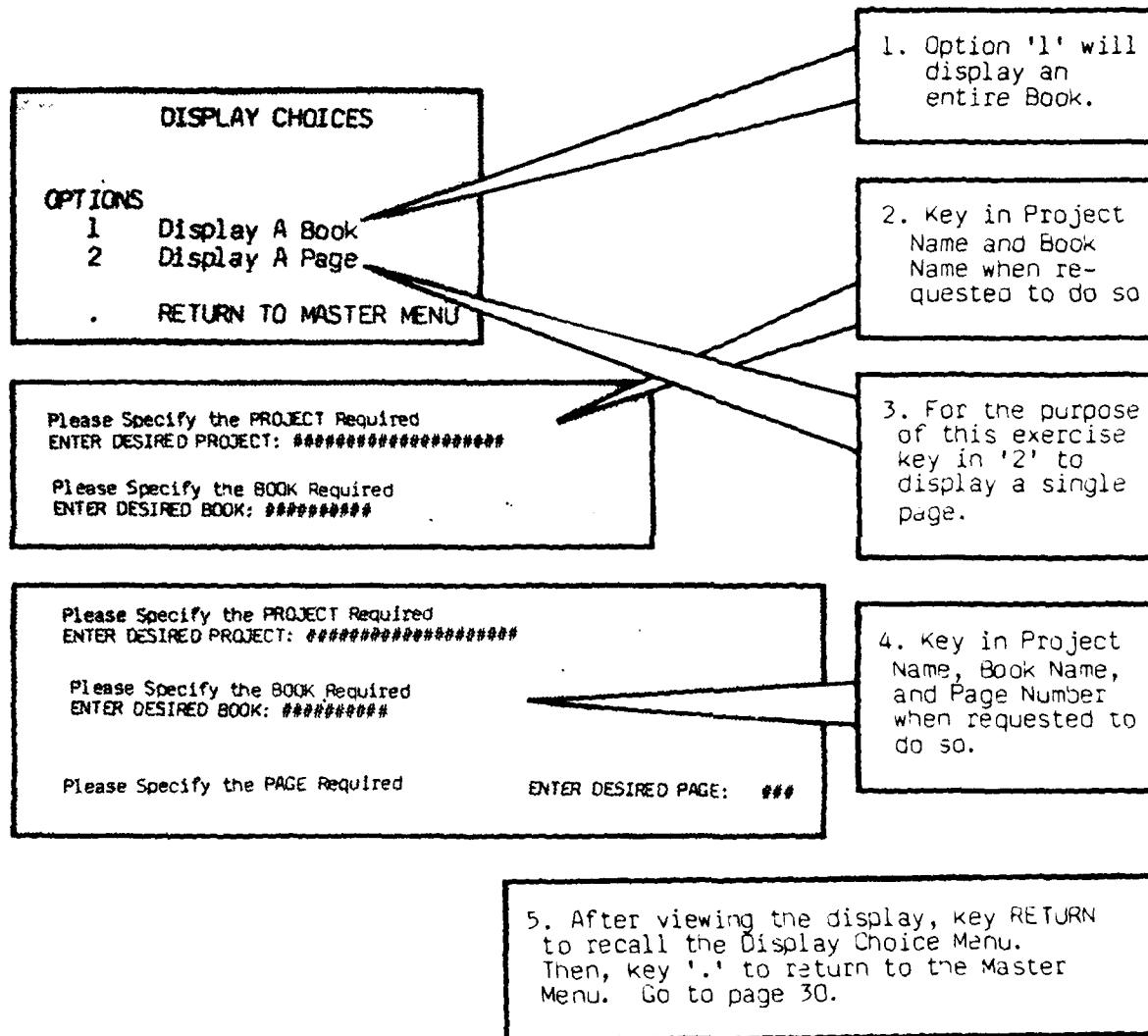
2. The Display Option works only on a Graphics Terminal.

Regular Terminal

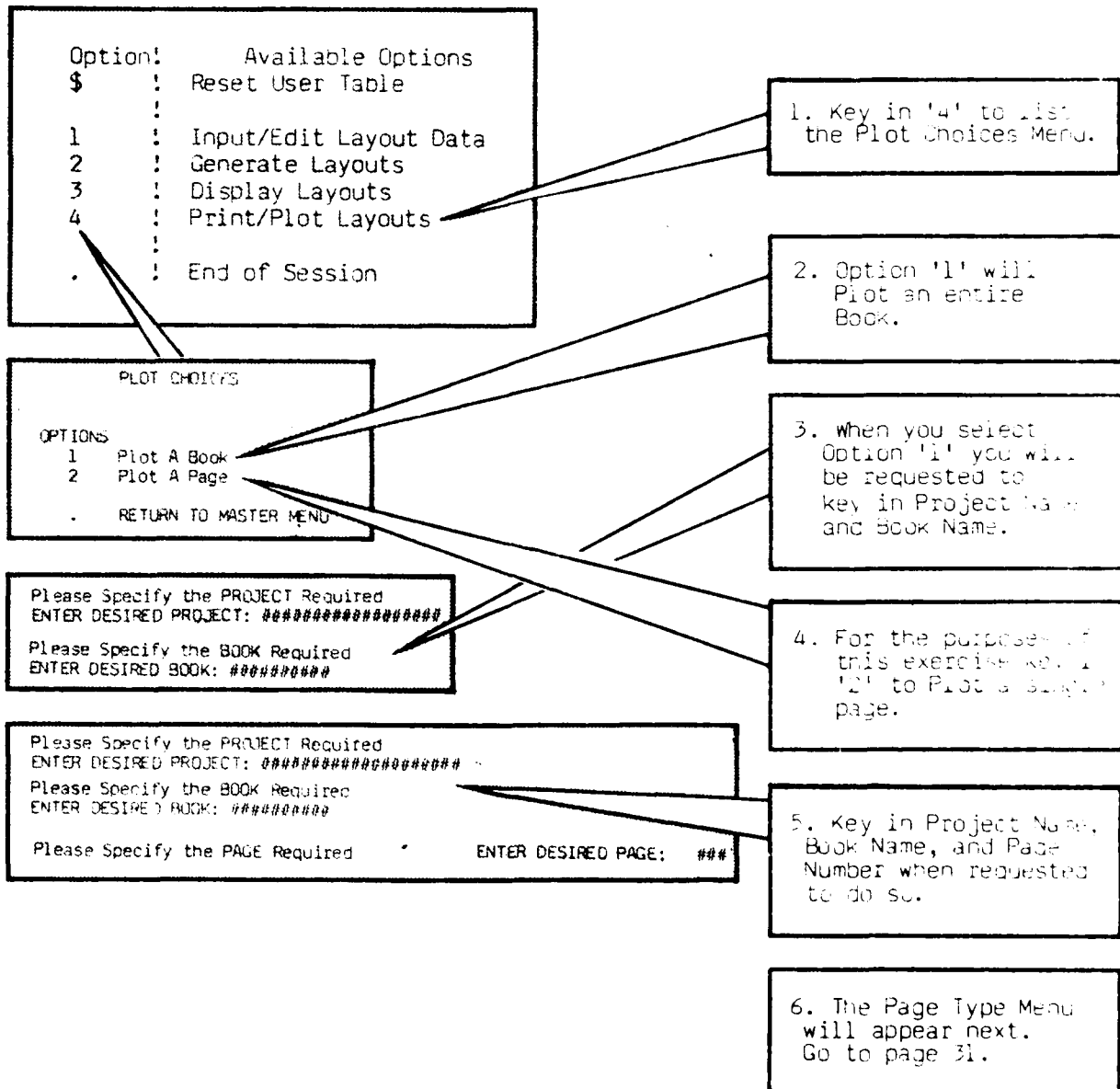
3. The Regular Terminal will not display the lines.

Note: The purpose of the Display Option is to provide the user a quick way to examine the displays without printing them. Go to page 29.

SEGMENT IV: DISPLAY PAGE LAYOUTS



SEGMENT 7: PRINT/PLOT PAGE LAYOUTS



SEGMENT V: PRINT/PLOT PAGE LAYOUTS

Information/Paraphrase Pages

1. Option '1' prints out Information Pages

PAGE TYPE CHOICES

OPTIONS

- 1 Information Page(s)
- 2 Paraphrase Page(s)

. RETURN TO PREVIOUS MENU

Note: The Information Page is the basic instructional page in a Procedure Training Aid. The pages in this Handbook are Information Pages.

2. Option '2' prints out Paraphrase Pages.

Note: The Paraphrase Page is a duplicate of the Information Page with key words blanked out. The purpose of the Paraphrase Page is to provide readers a self-check on how well they remember the material presented on the Information Page.

3. For the purposes of this exercise key '1' and go to page 32. The Page Arrow Menu will appear next.

# SEGMENT V: PRINT/PLOT PAGE LAYOUTS

## Arrow Choices

PAGE ARROW CHOICES

OPTIONS

- 1 With ALL generated arrows
- 2 With ALL generated arrows lettered
- 3 With NO label/picture cutting arrows
- 4 With NO Arrows At All

RETURN TO PREVIOUS MENU

1. Option '1' provides a printout with all arrows including those that cut labels and pictures.

2. Option '2' provides label arrows printed in letters instead of dots.

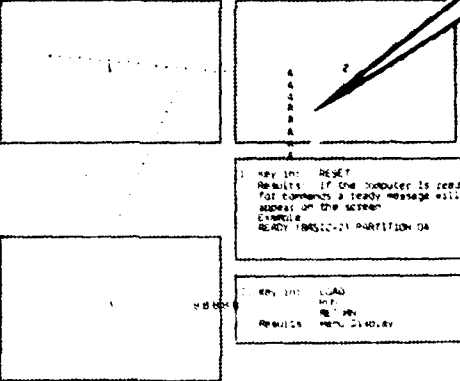
3. Option '3' provides a printout which eliminates arrows that cut labels or pictures. Option 3 is generally used as the final printout. The eliminated arrows are shown in gray.

4. Option '4' provides a printout which eliminates all arrows.

5. For the purposes of this exercise key '1' and go to page 33. The Header/Footer Menu will appear next.

page 1

PLAY: ACCESSING THE PAGE LAYOUT ALGORITHM FILE



1 Key: [ ] RESET  
Results: If the computer is ready for commands a ready message will appear on the screen.  
Example: READY THRU:21 PARTITION 0A

2 Key: [ ] LOAD  
Results: MENU DISPLAY



SEGMENT V: PRINT/PLOT PAGE LAYOUTS

Header/Footer Border Printouts

1. For the purposes of this exercise key '3' which indicates both Header and Footer should be printed. The Plot Speed Control will appear next. Go to page 34.

HEADER/FOOTER CHOICES

OPTIONS

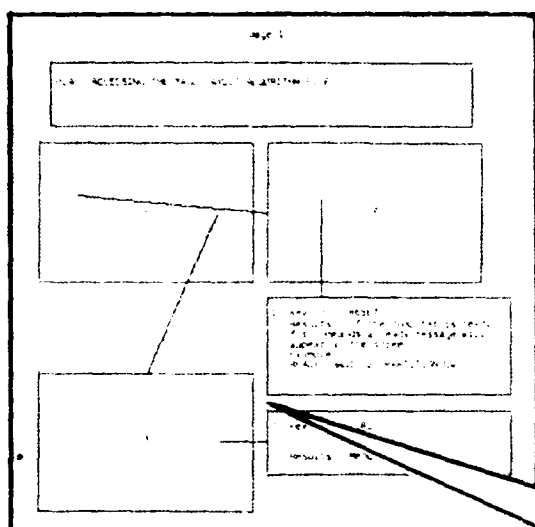
- 1 Header Bordered
- 2 Footer Bordered
- 3 Both Bordered
- 4 Neither Bordered

. RETURN TO PREVIOUS MENU

Note: The advantage in opting not to use a border is the time saved in printing.

SEGMENT 1: PRINTING OF PAGE 1 AND 15

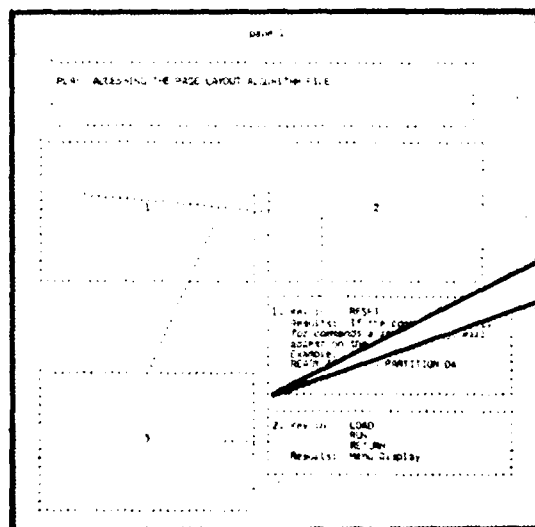
6. *Conclusions*



- 3. Ultra Fast Speed
- 4. Medium Speed
- 5. Ultra Slow
- 6. Ultra Fast Speed
- 7. Ultra Slow
- 8. Ultra Fast Speed
- 9. Ultra Slow
- 10. Ultra Fast Speed
- 11. Ultra Slow
- 12. Ultra Fast Speed
- 13. Ultra Slow
- 14. Ultra Fast Speed
- 15. Ultra Slow
- 16. Ultra Fast Speed
- 17. Ultra Slow
- 18. Ultra Fast Speed
- 19. Ultra Slow
- 20. Ultra Fast Speed
- 21. Ultra Slow
- 22. Ultra Fast Speed
- 23. Ultra Slow
- 24. Ultra Fast Speed
- 25. Ultra Slow
- 26. Ultra Fast Speed
- 27. Ultra Slow
- 28. Ultra Fast Speed
- 29. Ultra Slow
- 30. Ultra Fast Speed
- 31. Ultra Slow
- 32. Ultra Fast Speed
- 33. Ultra Slow
- 34. Ultra Fast Speed
- 35. Ultra Slow
- 36. Ultra Fast Speed
- 37. Ultra Slow
- 38. Ultra Fast Speed
- 39. Ultra Slow
- 40. Ultra Fast Speed
- 41. Ultra Slow
- 42. Ultra Fast Speed
- 43. Ultra Slow
- 44. Ultra Fast Speed
- 45. Ultra Slow
- 46. Ultra Fast Speed
- 47. Ultra Slow
- 48. Ultra Fast Speed
- 49. Ultra Slow
- 50. Ultra Fast Speed
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- 52. Ultra Fast Speed
- 53. Ultra Slow
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- 57. Ultra Slow
- 58. Ultra Fast Speed
- 59. Ultra Slow
- 60. Ultra Fast Speed
- 61. Ultra Slow
- 62. Ultra Fast Speed
- 63. Ultra Slow
- 64. Ultra Fast Speed
- 65. Ultra Slow
- 66. Ultra Fast Speed
- 67. Ultra Slow
- 68. Ultra Fast Speed
- 69. Ultra Slow
- 70. Ultra Fast Speed
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- 74. Ultra Fast Speed
- 75. Ultra Slow
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- 80. Ultra Fast Speed
- 81. Ultra Slow
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- 84. Ultra Fast Speed
- 85. Ultra Slow
- 86. Ultra Fast Speed
- 87. Ultra Slow
- 88. Ultra Fast Speed
- 89. Ultra Slow
- 90. Ultra Fast Speed
- 91. Ultra Slow
- 92. Ultra Fast Speed
- 93. Ultra Slow
- 94. Ultra Fast Speed
- 95. Ultra Slow
- 96. Ultra Fast Speed
- 97. Ultra Slow
- 98. Ultra Fast Speed
- 99. Ultra Slow
- 100. Ultra Fast Speed

1. For the purpose of this exercise key "1" and go to page 35 after reading the remaining labels on this page.

Note: Slow Speed  
produces a solid line  
suitable for camera  
ready copy.



Note: Medium, Fast, and Ultra Fast Speeds produce dotted lines. The faster the speed the greater the space between the dots.

Note: The purpose of Medium, Fast, and Ultra Fast Speeds is to produce a quick hard copy for examination during development of the page layout.

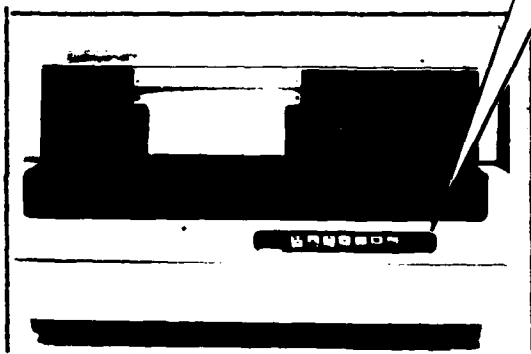
SEGMENT V: PRINT/PLOT PAGE LAYOUT

Daisy Wheel Printer

Make Sure the Daisy-Wheel Top-of-Form is Set Where You Want It,  
and the pitch is set to '12', and then Hit Any Key to Continue.

Note: This statement will appear on the  
screen when the program is ready to print.

1. Switch the Daisy wheel Pitch Control to  
12. Make sure the power is turned on.

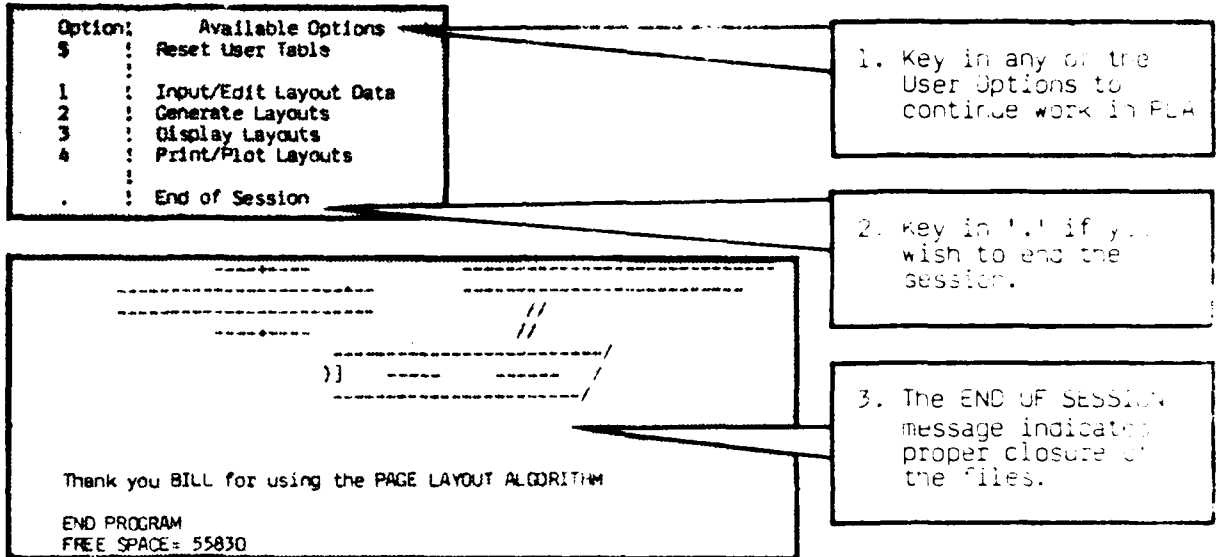


2. Hit any key to Print/Plot.

3. When Print/Plot is completed the Plot  
Choice Menu will appear on the screen.

4. For the purposes of this exercise key in  
a period '.' to return to the Master Menu.  
Go to page 36.

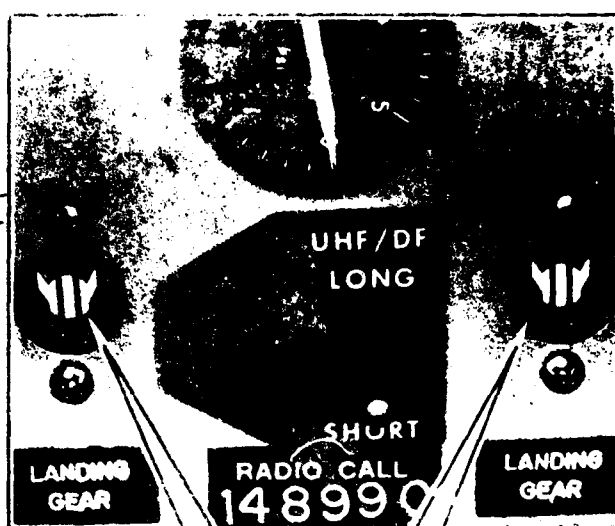
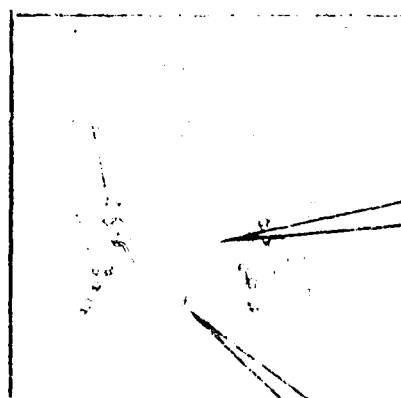
# SEGMENT VI: END OF SESSION



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APPENDIX A

SAMPLE PAGES OF INSTRUCTIONAL  
MATERIALS CREATED USING PLA



1. ACFT  
148990

2. ACFT  
148990

3. ACFT  
148990

4. ACFT  
148990

- GO TO PAPER MOUNTING
- Step through slot
  - Touch where mounting plate



5. Action

Release HDL LT TEST  
switch

6. Results

Light in LDG GEAR CONT  
handle goes OUT

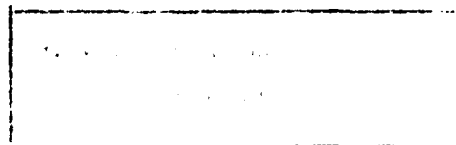
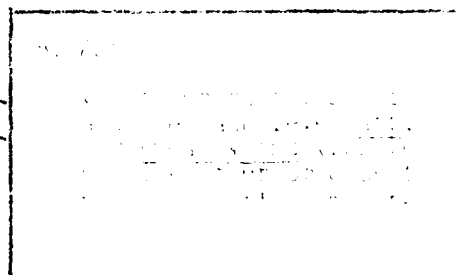
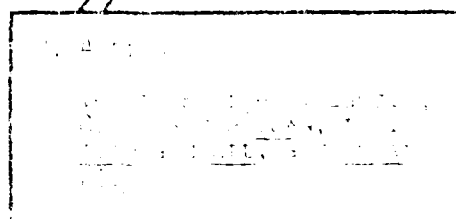
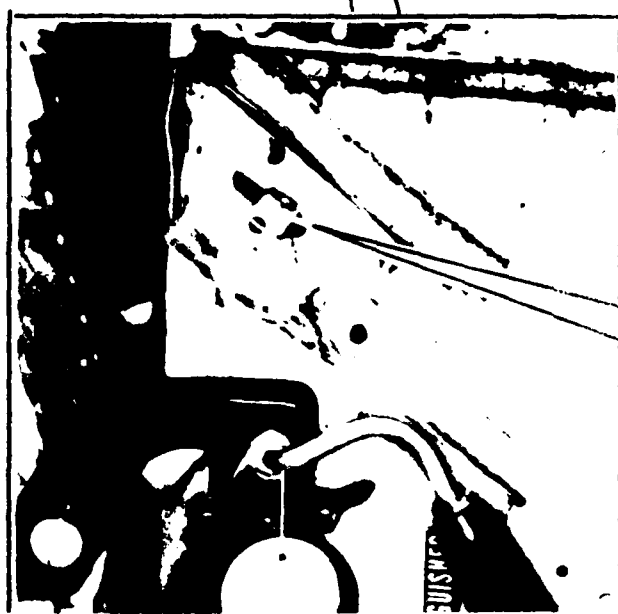
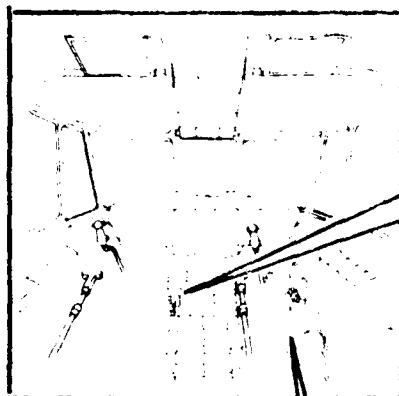
6. Results

Light in LDG GEAR CONT  
handle goes OUT

6. Results

Light in LDG GEAR CONT  
handle goes OUT

- . Step through item
- . Touch where each action and response takes place



- GO TO PAPER MOCK-UP:
- Step through each item
  - Touch where each action or response takes place



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APPENDIX B

FORMAT MODEL FOR DESIGNING  
PROCEDURE TRAINING AIDS

## FORMAT MODEL PERFORMING PROCEDURES

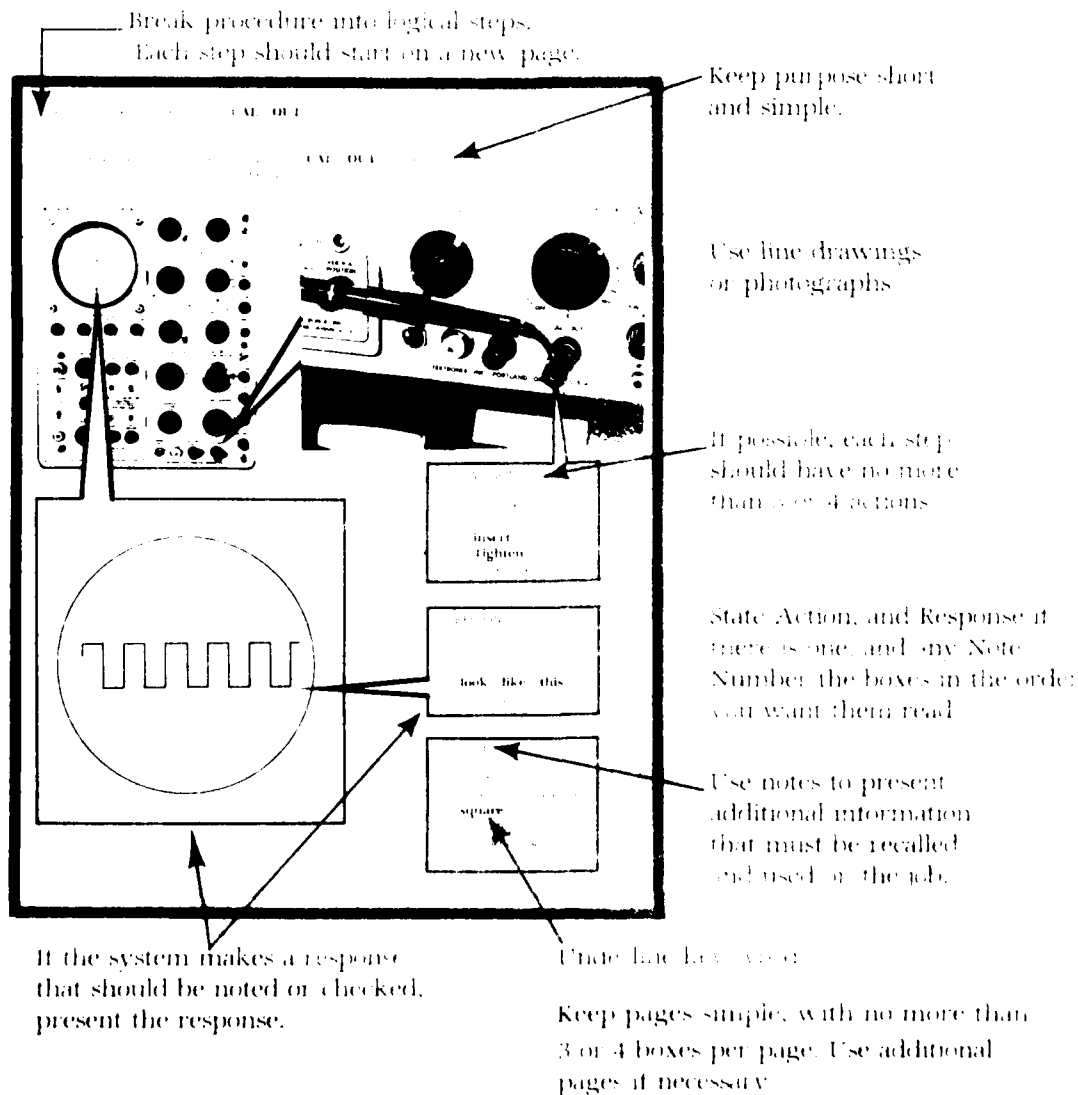
A general format for use in designing training materials which present steps of a procedure to be performed from memory.

### Performing Procedures Format Model - Page 1

Use this page format to present each step in a procedure.

The purpose of this page format is to present:

- a word description of the step--emphasize human action.
- a visual display of the step--emphasize human action.
- the purpose of the step.
- the location of actions on equipment.
- the system response to actions taken.
- notes--additional needed information.



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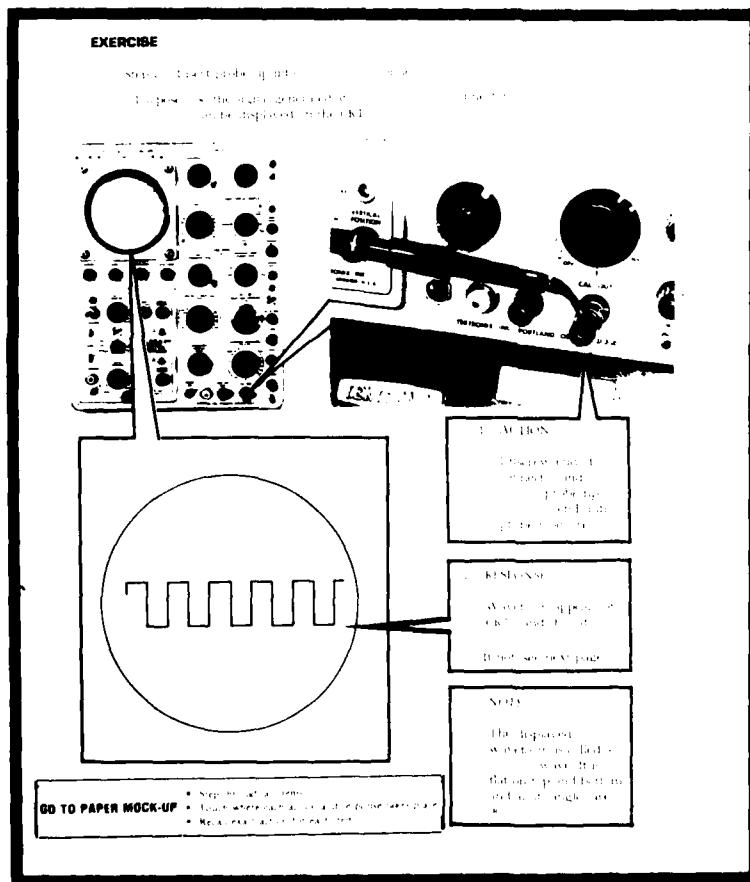
### Performing Procedures Format Model - Page 2

Use this page format immediately following each use of the page 1 format.

The purpose of this page format is to:

- provide students exercise in the recall of key words in the procedure.
- direct the students to practice the step on the paper mock-up.

Copy the previous page. Then drop out key words that were underlined on the previous page.



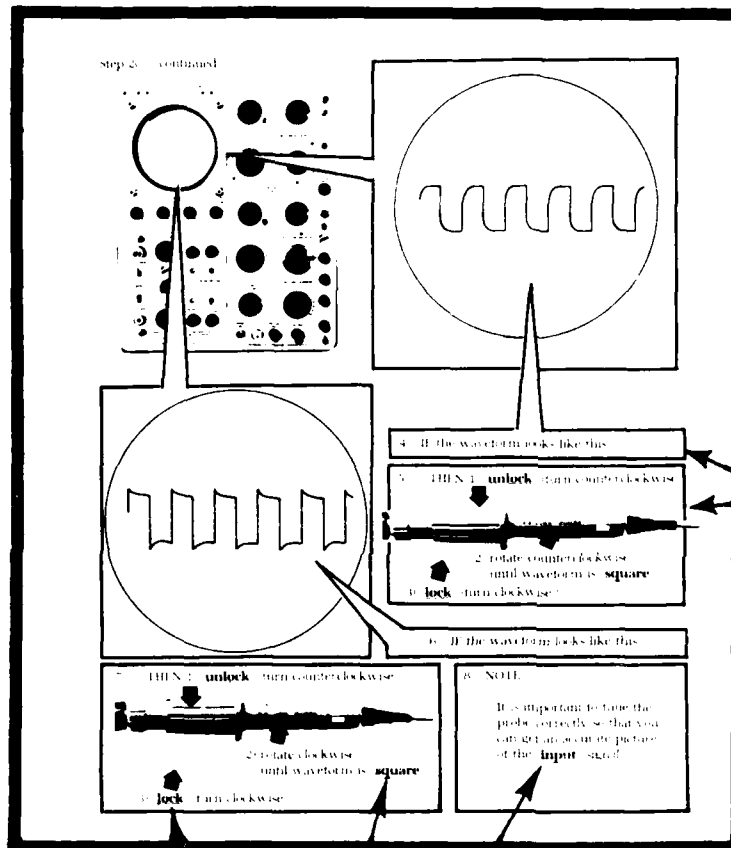
Add directions requiring students to go to the paper mock-up to practice the step.

Performing Procedures Format Model - Page 3

Use this If/Then page to describe simple branches in a procedure.

The purpose of this page format is to:

- describe a special condition that changes the normal procedure.
- describe the action to respond to the special condition.



For any additional Responses and Actions, use the IF... THEN format.

Continue to underline key words.

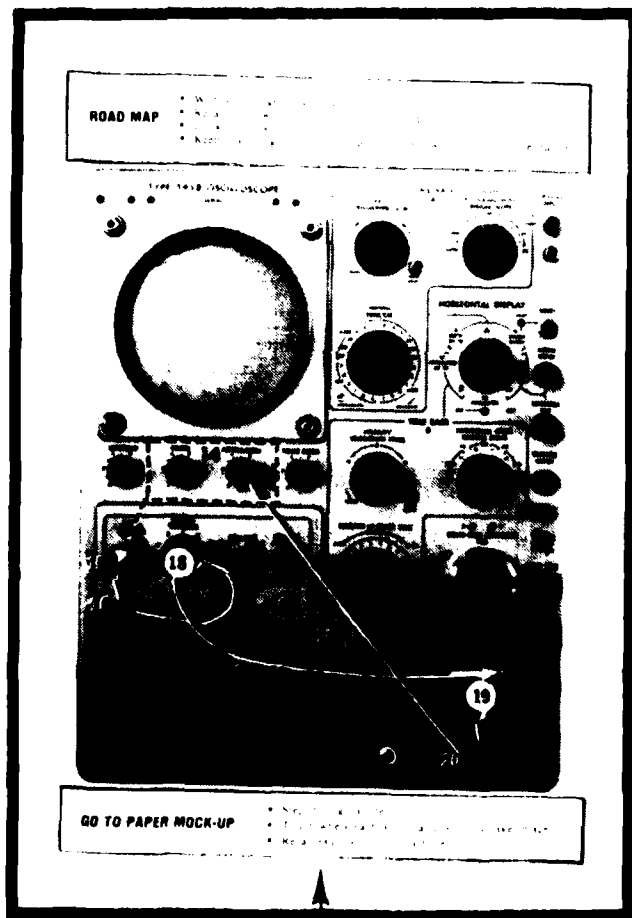
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### Performing Procedures Format Model - Page 4

Use this page after presenting each set of 3 to 7 steps in a procedure.

The purpose of this page format is to provide a finger tracing exercise to aid students in recalling a sequence of steps.

For each cluster of 3 to 7 steps, present a Road Map showing how the steps are chained together.



Present last step  
from previous  
cluster

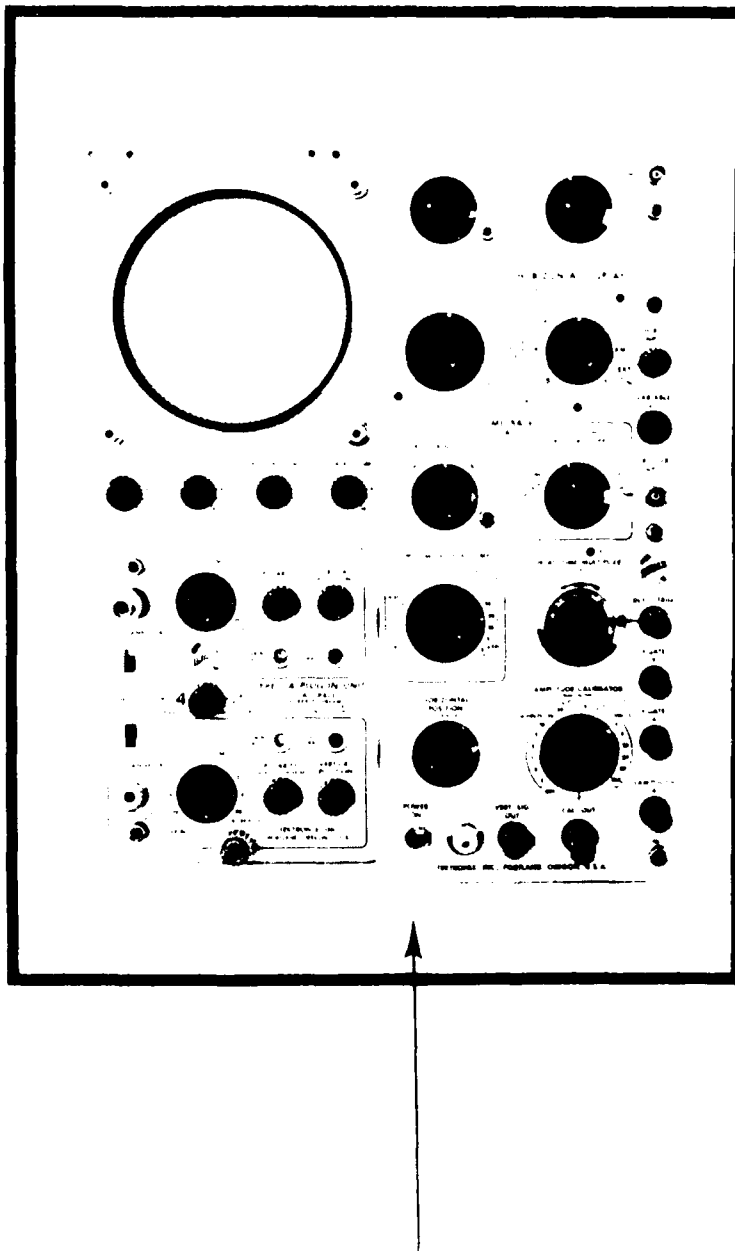
If the procedure is to be performed on the job with a checklist,  
present the checklist items here.

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### Performing Procedures Format Model - Page 5

Use this type of page at the end of the learning model.

The purpose of this page format is to provide students with a way to practice one step, a set of steps, or all the steps in a procedure without the aid of guides and prompts.



Make sure this page is a foldout that can be used at any time.

If the procedure is to be performed on the job with a checklist, present the entire checklist here, or on the opposite page where it can be easily seen while viewing this page.

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APPENDIX C  
PLA SYSTEM ERROR MESSAGES

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### PLA SYSTEM ERROR MESSAGES

The occurrence of a Fatal Error Message indicates that a specific page could not be generated for the reason stated in the message. The specific page number is stated in the space designated "###" in the list of error messages.

A Fatal Error indicates that the PLA system was unable to generate a page layout using the data entered in the Input/Edit Page Data for the specific page. The PLA system, after exhausting the repertoire of solutions for that problem, has aborted the process and has provided a Fatal Error Message explaining the reason for terminating the process. The Fatal Error Messages provide sufficient guidance to enable the author to correct the Input/Edit Page Data for that page.

### PLA: SYSTEM ERROR MESSAGES

FATAL ERROR: Label too wide for page ###, ABORTED!  
FATAL ERROR: Label too long for page ###, ABORTED!  
FATAL ERROR: Label too wide and long, page ###, ABORTED!  
FATAL ERROR: No Pictures(s) Present in the Data for Page ###, ABORTED!  
FATAL ERROR: Illegal Layout, More Than 1 Label to a Pic For Page ###, ABORTED!  
FATAL ERROR: Main Overview Pic Referenced Illegally For Page ###, ABORTED!  
FATAL ERROR: Main Overview Pic Referenced by a Label for Page ###, ABORTED!  
FATAL ERROR: A Label is Missing in the Sequence For Page ###, ABORTED!  
FATAL ERROR: Illegal Picture to Label Relationship For Page ###, ABORTED!  
FATAL ERROR: Illegal Picture to Picture Relationship For Page ###, ABORTED!  
FATAL ERROR: More Than 1 Picture to a Label For Page ###, ABORTED!  
FATAL ERROR: More Than 1 Overview To a Close-Up Picture For Page ###, ABORTED!  
FATAL ERROR: Picture Dimensions Insufficient to Generate For Page ###, ABORTED!  
FATAL ERROR: Internal Coordinates Outside of Pic's Dims For Page ###, ABORTED!  
FATAL ERROR: A Reference is Made to a Non-existing Label For Page ###, ABORTED!



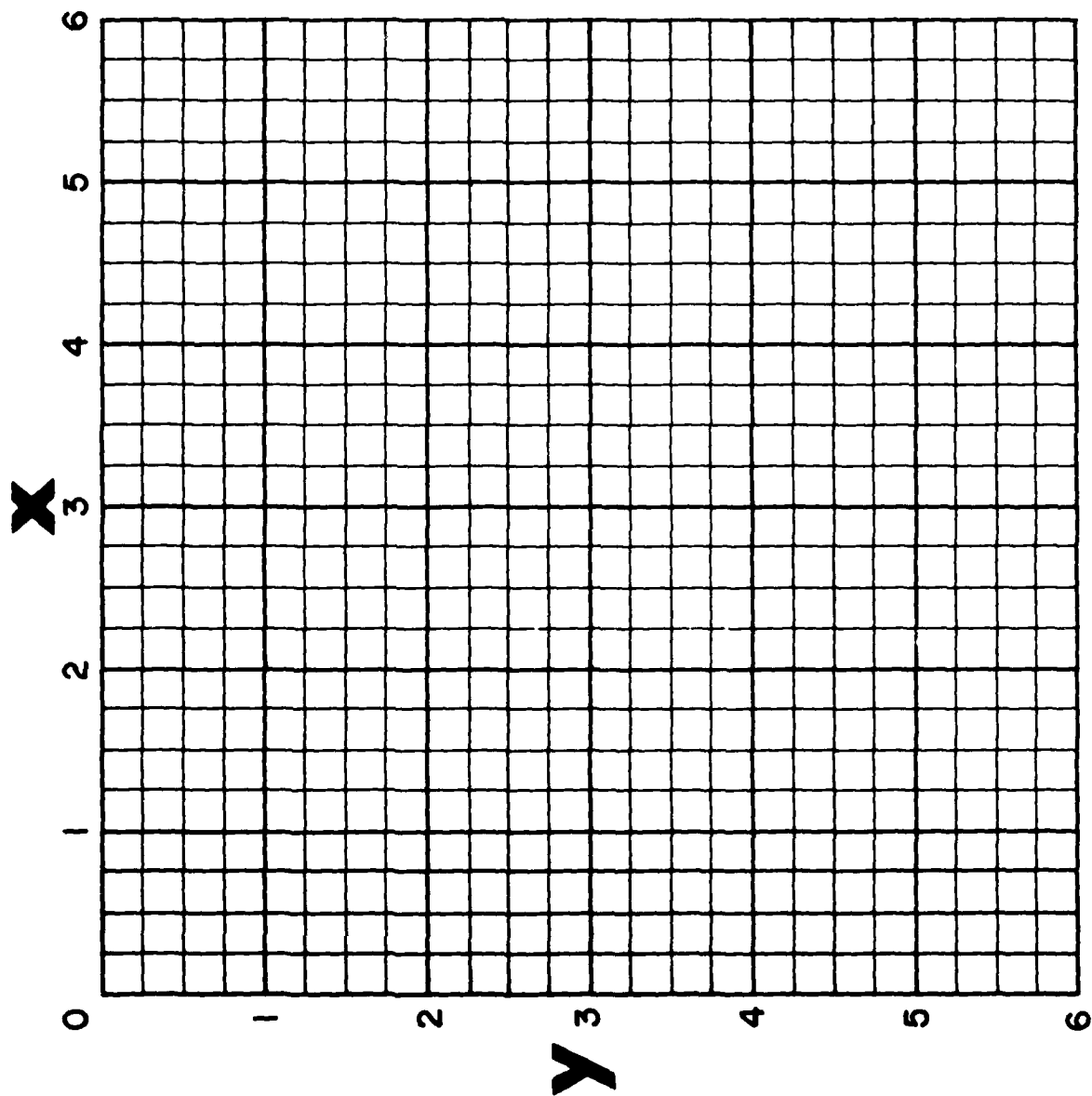
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APPENDIX D

PLA: PAGE LAYOUT ALGORITHM PICTURE COORDINATES GRID MASTER

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The Picture Coordinates Grid is to be used as a master to produce an overlay for the computation of picture dimensions and coordinates. The grid is laid out as an 0.25 inch scale.



PLA: PAGE LAYOUT ALGORITHM  
PICTURE COORDINATES GRID

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